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Listing first 45 summaries
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1: 9b_ba:*
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ALIGNMENTS

Query Match Best Local	BASE COUNT ORIGIN	source	FEATURES	JOURNAL	TITLE	AUTHORS	REFERENCE		ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	LOCUS	AR110775	RESULT 1
Query Match Best Local Similarity	د م	ii5 /organ	Loca	Patent: US 61	Liposomes containing oligonucleotides	Kasid, U., Gok	1 (bases 1 to 15)	Unclassified.	Unknown.	Unknown.	•	AR110775.1 G	AR110775	Sequence 1 from patent US 6126965.	AR110775		
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AR167449
AR167449.1
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Semple,S.C., Klinuk,S.K., Harasym,T., Hope,M.J., Ansell,S.M.,
Cullis,P., Scherrer,P. and Debeyer,D.
Charged therapeutic agents encapsulated in lipid particles
containing four lipid components
Patent: US 6287591-A 15 11-SEP-2001;
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Sequence 3 from patent US
AR110777
                    AR073978.1
                             Sequence 47 from patent AR073978
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1 (bases 1 to 20)

Monia, B.P. and Boggs, R.T.

Antisense oligonuclectide modulation
Patent: US 5952229-A 2 14-SEP-1999;
Location/Qualifiers
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                                                                     source
                                                                                     Antisense oligonucleotide regulation of raft gene expression
Patent: JP 2000152797-A 2 06-JUN-2000;
ISIS PHARMACBUTICALS INC
OS Homo sapiens (human)
PN JP 2000152797-A/2
PD 16-JUN-2000
PF 18-JAN-2000 JP 2000008654
PF 31-MAY-1994 US 08/250856
PR 31-MAY-1994 US 08/250856
PC C12N15/09,A6IK31/7088,A6IK48/00,A61P17/06,A61P35/00,A61P43/
PC C12N15/09,A6IK31/7088,A6IK48/00,A61P17/06,A61P35/00,A61P43/
PC C12N15/00,A
FT SOurce 1.20
FT SOurce /Organism='Homo sapiens (human)'.
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                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 20) P.M.B. and T.B.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Liposomal oligonucleotide compositions Patent: US 6096720-A 1 01-AUG-2000; Location/Qualifiers
                                                                                                                                                                                                                                                                                                          Homo sapiens
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JP 2000152797-A/2.
                                                                                                                                                                                                                                                                                                                                                      Antisense oligonucleotide 
E49512
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Love, W.Guy, Nicklin, P.Leslie,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unknown
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                                                                                                                                 Homo sapiens (human)
JP 2000152797-A/2
06-JUN-2000
18-JAN-2000 JP 2000008654
31-MAY-1994 US 08/250856
MONIA BURETTO P.BOGGUZU RUSSELL T
C12N15/09,A61K31/7088,A61K48/00,A61P17/06,A61P35/00,A61P43/00,
C12N15/00,A
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ilarity 100.0%;
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                                /organism="Homo sapiens"
/db_xref="taxon:9606"
5 c 4 g
                                                                              /organism='Homo sapiens Location/Qualifiers
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5 c 4 g
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AR037100/c
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Monia, B.P. and Boggs, R.T.

Antisense oligonucleotide modulation
Patent: US 5563255-A 2 08-OCT-1996;
Location/Qualifiers
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                                                                                                                                                                                                                                     Amplifications of chromosomal region indicator in breast cancer Patent: US 5801021-A 7 01-SEP-1998;
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Gray, J.W., Collins, C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13;
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                       from patent US 5892010
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Pred. No. 1.8e+04;
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PAT 29-SEP-1999

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18-FEB-2000

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PAT 06-FEB-1997

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          Barany, F., Zirvi, M., Gerry, N.P., Favis, R. and Kliman, R. Method of designing addressable array for detection of sequence differences using ligase detection reaction patent: WO 0179548-A 1318 25-OCT-2001; CORNELL RESEARCH FOUNDATION, INC. (US)
                                                                                                                                                                         synthetic construct.
synthetic construct
artificial sequence.
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1 (bases 1 to 20)

Gray, J., Collins, C., Hwang, S., Godfrey, T., Kowbel, D. Genes from the 20013 amplicon and their uses

Patent: US 5892010-A 15 06-APR-1999;
                                                                                                                                                                                                                                                                               Sequence 1318 from Patent AX289556 AX289556.1 GI:17051239
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Sequence 5951 from Patent WO0179548.
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/note="Hypothetical Probe Sequenty of Construction of C
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1 (bases 1 to 20)

Monia, B.P. and Boggs, R.T.

Antisense oligonuclectide modulation
Patent: US 5952229-A 3 14-SEP-1999;
Patent: US 5952229-A 3 14-SEP-1999;
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Sequence
AR073934
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13; Conserv
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Interleukin-2 receptor gamma-chain ribozymes
Patent: US 5807743-A 172 15-SEP-1998;
Location/Qualifiers
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/organism="synthetic construct"
/db_xref="taxon:32630"
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Oligonucleotide SC	AAV36074	19	36	76.0	11.4	5
prome	88	22	32	σ.	11.4	44
-	AAQ27952	13	32	6	11.4	43
Nucleotide fragmen	AAV67945	19	31	6.	11.4	2
	AAF03922	21	29	6.	11.4	1
~	AAF03474	21	29	76.0	11.4	0
Integrin subunit b	AAA21836	20	29	٥.	11.4	39
cance	AAQ52122	14	29	9	11.4	38
	AAV94455	19	27	76.0	11.4	37
rimer for	AAA96304	21	24	5	11.4	36
r #1 for	AAC83067	22	20	76.0	11.4	ü
r #2 for DNA	AAC83066	22	20	<u>ب</u>	•	34
estrogen re	AAD18428	22	20	76.0	•	33
seryl tRNA	AAI99804	24	41	78.7	11.8	32
Human seryl tRNA s	AAI99803	24	41	78.7	11.8	3
Adeno-associated v	AAI69852	22	33	78.7	11.8	30
erab	AAT58542	18	30	78.7	11.8	29
	AAQ12067	12	29	78.7	11.8	28
erate P	AAV82744	20	21	œ	11.8	27
c-raf kir	AAA73491	21	20	0	12	26
targeted	AAA92027	21	20	0	12	25
target	AAA92026	21	20	0	12	24
c-ra	AAZ11513	20	20	80.0	12	23
-raf ta	AAT86617	19	20	0	12	22
c-raf	AAT27483	17	20		12	21
-	397	19	27	82.7	12.4	20
	3	24	24		12.4	19
Capture oligonucle	ABI85032	24	24		12.4	18
Capture oligonucle	423	24	20		12.4	17
ens 20q1	361	19	20		12.4	16
FLpter 0	5	18	20	82.7	•	15
ion FLpter 0	658	18	20	82.7	12.4	14
c-raf kinas	AAA73490	21	20	86.7	13	ü
c-raf kinas	151	20	20	86.7	13	12
raf inhibit	597	18	20	86.7	13	Ξ
Human c-raf and de	AAT62145	18	20	86.7	13	10

ALIGNMENTS

ΒP

Human antisense c-raf-1 oligodeoxyribonucleotide.

XX

KW
Human; antisense; c-raf-1; oligodeoxyribonucleotide; ODN/oligo;
KW
tumour tissue; cancer; radiation therapy; radiosensitise; antisense;
KW
Liposome carrier system; ss.

XX
Homo sapiens.

XX
Key
FH
Key
FT
modified_base 1
FT
modified_base 1
FT
FT
modified_base 15
FT
XX
PN
W09843095-A1.

XX
PD
01-OCT-1998.

XX
19-MAR-1998; 98WO-US05303.

XX
24-OCT-1997; 97US-0957327.
PR
21-MAR-1997; 97US-0041192.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local :
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Composition containing lipid-encapsulated therapeutic agent useful, e.g. for delivering antisense molecules or ribozymes or treating diseases associated with aberrant gene expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This is the nucleotide sequence of the human antisense c-raf-1 oligodeoxyribonucleotide (ODN/oligo), used in the method of the invention to directly target tumour tissue, and in cancer radiation therapy. The products can be used in a method of radiosensitising tumour tissue by addition of an antisense oligonucleotide of maximum 40 bases containing ODN/oligo. The liposome carrier system directly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New cationic liposome composition containing raf oligodeoxynucleotide - can be used to directly target tumour tissue and is useful in the radiation therapy of cancers
                                                                   Ansell SM,
Klimuk SK,
                                                                                                                           14-MAY-1997;
                                                                                                                                                14-MAY-1998;
                                                                                                                                                                                                                                      Key
modified_base
                                                                                                                                                                                                                                                                                                       Antisense oligonucleotide; human c-raf-1 protein kinase gene; phosphorothioate; phosphodiester; lipid-encapsulation; tumour; aberrant gene expression; treatment; inflammation; infection; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40 bases containing ODN/oligo. targets tumour tissue and has therapy of cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim
                                                                                                    (INEX-) INEX PHARM CORP.
                                                                                                                                                                       19-NOV-1998
                                                                                                                                                                                            W09851278-A2
                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                    Antisense oligonucleotide directed against c-raf-1 protein kinase
                                                                                                                                                                                                                                                                                                                                                                            22-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                  AAV99435;
                                                                                                                                                                                                                                                                                                                                                                                                                       AAV99435 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (GEOU ) UNIV
                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGCTCCATTGATGC
                                              1999-045179/04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1998-532155/45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4; Page 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15
                                                                   Cullis P,
Scherrer F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BP; 2 A; 4 C; 4 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GEORGETOWN
                                                                                                                           97US-0856374
                                                                                                                                                 98WO-CA00485
                                                                                                                                                                                                                                       Location/Qualifiers
1..15
                                                                                                                                                                                                                 /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25pp;
                                                                                                                                                                                                                                                                                                                                                                                                                       DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
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                                                                              Debeyer D,
                                                                                                                                                                                                                 "phosphorothicate
                                                                                                                                                                                                                                                                                                                                                                                                                       15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            English
                                                                   Semple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   has the potential for use in the radiation
                                                                                                                                                                                                                                                                                                                                                                                                                       ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kasid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 15;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ហ
                                                                     SC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ή,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ď
                                                                              Harasym
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rahman A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
29;
                                                                                                                                                                                                                 or phosphodiester bonds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                              Hope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                               돐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
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The present sequence represents an antisense oligonucleotide directed cagainst the human c-raf-1 protein kinase gene. The oligonucleotide can chave either phosphorothioate or phosphodiester bonds. The oligonucleotide ci lipid-encapsulated using the method of the invention. A composition comprising lipid-encapsulated particles of a therapeutic agent. Ce. e.g. antisense oligonucleotides, is prepared by mixing at least 2 lipids with buffered aqueous solution of charged therapeutic agent to form an cc intermediate mixture of lipid-encapsulated particles, and changing the pH of the mixture to neutralise at least some of the external surface charges on the particles. One lipid has a (de)protonatable group with CC ka such that the lipid is charged at a first pH but neutral at a second CC lipid in the charged form (i.e. cationic when the therapeutic agent is CC lipid in the buffer, or vice versa). The second lipid prevents particle aggregation during formation of the lipid-therapeutic agent particles. Cr in vitro or in vitro, particularly to treat or prevent diseases associated with aberrant gene expression in mammals, specifically tumours,
  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure;
    15
BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Page 23; 98pp; English.
  N
  .
    4 C; 4 G;
    5 T; 0 other;
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RESULT 3
AAZ98661
В
                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                 Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                           misc_feature
                                                                                                                                                               Homo sapiens
                                                                                                                                                                                         Antisense oligonucleotide; phosphorothicate; inflammatory disease;
                                                                                                                                                                                                        Human
                                                                                                                                                                                                                     05-JUN-2000
                                                                                                                                                                                                                                  AAZ98661;
                                                                                                                                                                                                                                               AAZ98661 standard;
                                                                                                                                                                             infectious disease;
                                                                                                                                                                                                                                                                                 1 GTGCTCCATTGATGC
                                                                                                                                                                                                                                                                                        GTGCTCCATTGATGC
                                                                                                                                                                                                        c-raf-1
                                                                                                                                                                                                                                                                                                          l Similarity
15; Conser
                                                                                                                                                                            gene therapy; aberrant gene expression;
ous disease; protein kinase C alpha; c-ra
                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                       PK therapeutic antisense oligonucleotide
                                                                                                                                           Location/Qualifiers
1..15
                                                                                                                                                                                                                                                DNA;
                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                             15
                                                                                                                                                                                                                                                15
                                                                                                                                                                                                                                                ВP
                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                  Score 15;
Pred. No.
                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                             alpha; c-raf-1
                                                                                                                                                                                                                                                                                                                DB
29;
                                                                                                                                                                                                                                                                                                                        20;
                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                   treatment
                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                             protein
                                                                                                                                                                                                        sequence ATG-AS
                                                                                                                                                                             kinase;
                                                                                                                                                                                                                                                                                                           0;
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0;

(HARA/) (HOPE/) (ANSE/) (CULL/)

14-MAY-1998; 13-MAY-1999; 14-NOV-1999. CA2271582-A1

98US-0078955 99CA-2271582

/note= /*tag=

"Optionally phosphorothicate internucleotide linkages"

(KLIM/)

S

~

HARASYM KLIMUK

(MOKW/)

HOPE M J.

ANSELL S M.

CULLIS P R.

MOK W W K.

SCHERRER P.

SEMPLE S C.

(SEMP/)

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Q
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This sequence represents an antisense oligonucleotide sequence which has human c-raf-1 protein kinase as its target gene. The oligonucleotide is used in a method for delivering lipid encapsulated therapeutic agents (i.e antisense oligonucleotides) to mammals. The lipid capsule comprises steric barrier lipids that prevent particle aggregation during lipid nucleic acid formation. The method may be used for the delivery of therapeutic agents to mammalian cells. It is especially suitable for delivering nucleic acid molecules, and in particular antisense molecules which may be administered to down regulate the expression of aberrant genes. The aberrant gene may be ICAM-1, c-myc, c-myb, ras, raf, erb-B-2, PKC-alpha, IGF-IR, EGFR, VEGF and/or VEG-R-1. The method may be used for the treatment of tumours, inflammatory diseases and/or infectious
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI;
 WPI; 2002-024658/03
                       Semple SC,
Scherrer P,
                                                                                                          14-MAY-1998;
                                                                                                                                                         US6287591-B1
                                                                                                                                                                                                                                                        Homo
                                                                                                                                                                                                                                                                                       Treatment; tumour; lipid-therapeutic agent particle; sphingomyelin; distearoylphosphatidylcholine; palmitoyloleoyl phophatidylcholine; DSPC; POPC; 1,2-dioleoyl-sn-3-phosphoethanolamine; cholesterol; SM; DOPE; inflammation; c-raf-1 protein kinase gene;
                                                                                                                                                                                                                                                                                                                                                   Human c-raf-1 protein kinase antisense oligonucleotide, ATG-AS
                                                                                                                                                                                                                                                                                                                                                                             26-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                     AAD22797;
                                                                                                                                                                                                                                                                                                                                                                                                                            AAD22797 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 5; Page 57; 99pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      capsules
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Klimuk SK,
Scherrer P,
                                                                                  14-MAY-1997;
                                                                                                                                 11-SEP-2001
                                                                                                                                                                                                                   modified_base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 GTGCTCCATTGATGC 15
                                                                                                                                                                                                                                                      sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGCTCCATTGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity
15; Conser
                                                            INEX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for delivering antisense oligonucleotides comprising steric barrier lipids -
                      Klimuk SK,
Debeyer D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Harasym
Semple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                            PHARM CORP
                                                                                  97US-0856374
                                                                                                         98US-0078954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 A; 4 C;
                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                       /*tag=
                                                                                                                                                                                 'note=
                                                                                                                                                                                             /mod_base= OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                            DNA; 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15
                         ū
                                                                                                                                                                              "Optionally phosphorothicate backbone"
                                   Harasym
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 G;
                                                                                                                                                                                                                                                                                                                                                                                                                            BP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 15;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5 T; 0 other;
                                   7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ansell SM,
                                   норе
                                   Ĭ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; T2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cullis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                   Ansell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ç
                                   , MS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mok WWK
                                   Cullis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
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                                   ס
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
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The invention relates to a composition useful for treatment of e.g. cc tumours. The composition and a charged therapeutic agent which is cc comprising a lipid portion and a charged therapeutic agent which is cc encapsulated in the lipid portion. The lipid portion comprises a first lipid component selected from lipids containing a protonatable or cc deprotonatable (preferably protonatable) group that has a pKa such that the lipid is in charged form at a first pH and in neutral form at cc a second pH. The pKa of lipid component is from 4-11. The first lipid component is further selected such that the charged form is cationic cwhen the therapeutic agent is anionic and vice versa; the second lipid component is selected from lipids that prevent particle aggregation cc during lipid-therapeutic agent particles formation and which exchange out the their period particle at a rate greater than pEG-cerc20; third lipid component is a neutral lipid selected from distearoylphosphatidylcholine (DSPC), palmitoyloleoyl phophatidylcholine (PSPC), 1,2-dioleoyl-sn-3-cc (DSPC), palmitoyloleoyl phophatidylcholine (PSPC), 1,2-dioleoyl-sn-3-cc (DSPC), palmitoyloleoyl phophatidylcholine (PSPC), 1,2-dioleoyl-sn-3-cc (TSPC), palmitoyloleoyl phophatidylcholine (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Composition useful for treatment of e.g. tumors comprises
   Sequence
                                                              targetted to human c-raf-1 protein kinase gene
   15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             lipid portion and a charged therapeutic
BP;
2 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-16;
   4 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           48pp;
   4 G;
   5 T;
   0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          particles
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Query Match Best Local 9 Matches 1 1 GTGCTCCATTGATGC GTGCTCCATTGATGC l Similarity 15; Conser Conservative 15 15 100.0%; 0; Score 15; Pred. No. Mismatches DB 24; 0; Length 15; Indels 0 Gaps

0,

B Q

RESULT 5 AAT27527 Antisense; psoriasis; AAT27527 standard; Mouse/rat c-raf start translation region antisense oligunucleotide. 04-JUL-1996 AAT27527; anti-proliferative; tumour;
restenosis; 3' untranslated (first entry) DNA; 20 untranslated cancer; region; raf;

Synthetic.

WO9532987-A1

31-MAY-1995; 95WO-US07111

07-DEC-1995

31-MAY-1994; 94US-0250856

(ISIS-) ISIS PHARM INC

RT, Monia BP;

WPI; 1996-030518/03

Oligo:nucleotide(s) targetted to nucleic acids encoding human raf

밁 δÃ

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RESULT 6
AAZ11557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                   26-NOV-1996;
31-MAY-1994;
31-MAY-1995;
The invention provides antisense oligonucleotides targeted to mRNA encoding human raf and capable of inhibiting raf expression. The antisense oligonucleotides are useful for treating and diagnosing abnormal proliferative states and hyperproliferation (e.g. cancer, psoriasis, or blood vessel restensis), and inhibiting raf expression. Sequences Z115511-564 represent antisense oligonucleotides for mouse a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     expression. The oligonucleotides (ONs) are targeted to either coding region, start signal or 5' or 3' untranslated region (UTR) mRNA encoding mouse/rat c-raf. The ONs are phosphorothicate linked. The ONs are used to inhibit expression of rat and mouse raf. The ONs can be used in partic. In conditions associated with hyperproliferation e.g.
                                                                                                                                                                                                                                                                WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAT27521-T27534 are antisense oligonucleotides against both rat and mouse c-raf kinase. They can be used for the inhibition of raf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      capable of inhibiting raf expression, used in treatment hyper:proliferative disorders
                                                                                                                                           Disclosure; Column 15;
                                                                                                                                                                                                                       Oligonucleotides targeted to human raf mRNA useful for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US5952229-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mouse;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mouse
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAZ11557 standard;
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95WO-US07111.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             blood vessel restenosis; c-raf;
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Best Local S
Matches 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-MAY-1994;
31-MAY-1995;
26-NOV-1996;
                                                   craf is a serine-threonine-specific protein kinase and is thought to play a fundamental role in signal transduction, and cell proliferation control. The present sequence is an antisense oligonucleotide. This sequence is targeted to mouse and rat c-raf genes, resulting in c-raf expression inhibition. The present sequence may be useful for treating and raf-rassociated cell hyperproliferation conditions such as cancer, hyperplasias, pulmonary fibrosis, anglogenesis, psoriasis, atherosclerosis and smooth muscle cell proliferation in blood vessels e.g. stenosis or restenosis following angioplasty. Also, the present sequence may be useful for treating inflammatory disorders such as tiss graft rejection, endotoxin shock and glomerular nephritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antisense oligonucleotides targeted to nucleic acid molecule encoding human raf useful for diagnosis, treatment of raf-associated cell proliferative conditions such as cancer, psoriasis or blood vessel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   signal transduction; hyperplasia; pulmonary fibrosis; anglogenesis; psoriasis; atherosclerosis; smooth muscle cell proliferation; steno restenosis; inflammatory disorder; tissue graft rejection; endotoxin shock; glomerular nephritis; mouse; rat; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Column 14; 31pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-AUG-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-NOV-2000
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15; Conserv
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   BP; 4 A;
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95WO-US07111.
96US-0756806.
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   4 C; 5 G; 7 T; 0 other;
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Mismatches
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                                                                              CC apable of modulating a process in a biological system. The method cc capable of modulating a process in a biological system. The method cc comprises: (a) introducing into the system a random library of nucleic cc comprises: (a) introducing into the system a random library of nucleic cc acid catalysts (NAC) having a substrate binding domain (SBD), comprising a random sequence, and a catalytic domain (CD); and (b) identifying NAC consists where modulation has occurred and/or determining the sequence of at least part of the SBDs in such systems. Nucleic acid molecules cc with endonuclease activity and catalytic activity, from the present convention, are used to modulate gene expression in plant and mammalian cc lais and to cleave target nucleic acid, particularly for treating cc systemic diseases caused by specific RNA, e.g. cancer, inflammation, cc psoriasis, non-hepatic ascites and infection. They may also be used to detect genetic drift and mutations in diseased cells and to determine cc raf RNA. Specifically NACs with RNA-cleaving activity that modulate expression of the Raf gene, are used to treat cancer, restemosis, concreases stability against nuclease and activity. AAV90922 to AAV93877 crepresent NACs that can be used in the method, specifically for modulation according to the method, specifically for activity can be used in the method, specifically for according to the method.
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09-MAY-1997;
09-UN-1997;
03-JUL-1997;
03-JUL-1997;
22-AUG-1997;
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05-NOV-1997;
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Karpeisky A
Parry T, F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Identifying new catalytic nucleic acid that modulates selected processes - especially ribozymes that cleave Raf RNA for treating cancer, restenosis, and also new ribozymes and modified nucleoside triphosphates used as antiviral agents and synthons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 177; Page 146; 259pp; English.
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Reynolds M,
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97US-0046059.
97US-0049002.
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97US-0056808.
97US-0061321.
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, Matulic-Adamic J, Mc:
Sweedler D, Thompson J
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expression; Raf gene;
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on J, Workman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jarvis
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                                                                                                                                                                                                            AAT27481-T27507 are human c-raf kinase antisense oligonucleotides use for the inhibition of raf expression. The oligonucleotides (ONs) are targeted to either coding region, start or stop signal or 5' or 3' untranslated region (UTR) mRNA encoding human c-raf. The ONs may be phosphorothioate linked and may contain modifications at the 2' position of the sugar moiety. ONs are pref. complementary to either 3' or 5' UTRs, phosphorothioate linked and contain 2'-O-alkyl sugar modifications. The ONs are used to inhibit expression of human raf in partic. in conditions associated with hyperproliferation e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Oligo:nucleotide(s) targetted to nucleic acids encoding capable of inhibiting raf expression, used in treatment
                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1996-030518/03.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-JUL-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hyper:proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (ISIS-) ISIS PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17
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GCTCCATTGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTCCATTGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                             10;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13;
                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                            restenosis,
                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                          Page 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Monia BP
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hioate; 2' sugar mod
                                                                                                                                                       B₽;
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                                                             Conservative
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1..20
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                                                                                                                                                       Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                        65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA;
                    15
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100.0%;
                                                                                                                                                       5 C; 4 G; 6 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sugar modification;
                                                                                       100.0%;
                                                                                                           86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a opt.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "all bases opt. contain 2'-0-methyl or 2'-0-propyl sugar modifications"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
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Pred. No.
                                                                                    Score 13;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphorothioate linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tumour; cancer; raf; oncogene;
iffication; psoriasis; restenosi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    start site antisense oligonucleotide
                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                       0
                                                                                                                                                     other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 20;
4.2e+02;
                                                                                                         DB 17;
                                                                                       4.3e+02;
                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
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                                                                                                         Length 20
                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      restenosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human
of
                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                Gaps
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                                                                0;
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RESULT 10
AAT62145
ID AAT62145
XX XAT62145
AC AAT622
XX DT 01-DE
XX Cance
KW Cance
KW Cance
KW renal
KW Color
XX W0971
PM W0971
PM W0971
PM W0971
PM W0971
PM W0971
PM W0971
XX T19-SI
XX WPI 19-SI
XX WPI;
XX Compx
PT C
AAT59716
ID AAT5
XX
AC AAT5
XX
                                                                                                                       RESULT 11
                                                                                                                                                                                             B
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                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                     A pharmaceutical composition has been developed comprising an oligonucleotide, targeted to human raf encoding mRNA, and an anionic polysaccharide. The present sequence represents a specifically claimed oligonucleotide for use in the composition. The composition can be used to treat mammalian cancer, especially human lung, stomach, renal, breast, laryngeal, pancreatic or colorectal cancer, or malignant melanoma. The anionic polysaccharide increases tumour uptake of the oligonucleotide, particularly an oligonucleotide targeted to human raf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cancer; anionic polysaccharide; human; renal cancer; breast cancer; laryngeal colorectal cancer; malignant melanoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 16;
                        AAT59716;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human c-raf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-DEC-1997
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                                                                          AAT59716 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Composition for cancer treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1997-202610/18.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-SEP-1995;
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                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             human c-raf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   polysaccharide,
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                                                                                                                                                                                               1
                                                                                                                                                                                                                                         3 GCTCCATTGATGC 15
                                                                                                                                                                                               GCTCCATTGATGC
                                                                                                                                                                                                                                                                                         . Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NOVARTIS AG.
CIBA GEIGY A
                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Page 14; 21pp;
                                                                                                                                                                                                                                                                                                                                                                                       BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and dextran sulphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and dextran sulphate mRNA targetting oligonucleotide ON1
                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Steward A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and oligo:nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
1..20
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/note=
                                                                                                                                                                                                                                                                                                                                                                                       Α;
                                                                          DNA;
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                                                                                                                                                                                                                                                                                                               86.7%;
                                                                                                                                                                                                                                                                                                                                                                                       5 C; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Phosphorothicate backbone; optionally being uniformly substituted at the 2'-position of sugar moiety by a methoxy group"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
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                                                                        ВP
                                                                                                                                                                                                                                                                                                               Score 13;
Pred. No.
                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                       G; 6 T; 0 other;
                                                                                                                                                                                                                                                                                           Mismatches

    comprising anionic
    ide targeted to mRNA encoding

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cancer; pancreatic cancer;
tumour; ss.
                                                                                                                                                                                                                                                                                         4.3e+02;
hes 0;
                                                                                                                                                                                                                                                                                                                                        DB 18;
                                                                                                                                                                                                                                                                                                                                   Length 20;
                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                         0;
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RESULT 12
AAZ11512
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Best Local
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                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                   laryngeal, pancreatic, colorectal cancer and malignant melanoma. In particular the compsns. can inhibit abnormal raf expression and retain anti-hyperproliferative activity after prolonged circulation in the bloodstream. They facilitate the reduction of accumulation of ONS in non-target organs and a reduction of acute and chronic side effects during prolonged treatment. ONI-10 are oligodeoxynucleotides with phosphorothicate backbones designed using the Genbank c-raf sequence
                                                                                                                                                                                                                                                                                                                                                                                                                               stabilised liposomes are claimed. The compsns. can be used for inhibiting the expression of human raf. They can be used for the treatment of mammalian cancer, partic. human cancer e.g. lung, stomach, renal, breast,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       T59716-28 are preferred oligonucleotides which are targeted to mRNA encoding human raf and are capable of inhibiting raf expression. Compositions containing the oligonucleotides entrapped in sterically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19-SEP-1995;
01-AUG-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       anti-hyperproliferative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-OCT-1997
             Human; raf;
                                        Human c-raf kinase antisense oligo ISIS # 5074.
                                                                  05-NOV-1999
                                                                                                                      AAZ11512 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 16; Rage 18; 27pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1997-145363/13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hamilton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-JUL-1996;
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                                                                                                                                                                                         سا
                                                                                                                                                                                                                  ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     inhibitor;
                                                                                                                                                                                        GCTCCATTGATGC
                                                                                                                                                                                                                  GCTCCATTGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              raf inhibitor oligonucleotide
                                                                                                                                                                                                                                           1 Similarity
13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ķ
O,
                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                           ON1 is targeted to the
             diagnosis; abnormal
                                                                                                                                                                                                                                                                                                BP; 5 A;
                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Love WG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      95GB-0019130
95GB-0015743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96WO-GB01775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antisense; liposome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'note= "phosphorothioate backbone linkages"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag=
                                                                                                                       DNA;
                                                                                                                                                                                                                 15
                                                                                                                                                                                                                                                        86.7%;
                                                                                                                                                                                                                                                                                                5 C; 4 G; 6 T; 0 other;
                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nicklin PL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SS
                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                         Score 13;
Pred. No.
proliferative state; hyperproliferation; restenosis; c-raf kinase; antisense; ss.
                                                                                                                                                                                                                                                                                                                           translation initiation site
                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ON1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Phillips
                                                                                                                                                                                                                                            DB 18;
. 4.3e+02;
ches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      abnormal expression;
                                                                                                                                                                                                                                                                    Length 20
                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                            Gaps
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0

cancer; psoriasis; blood vessel

9

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RESULT 13
AAA73490
ID AAA73
XX
AC AAA73
AC AAA73
AC BHUMA
XX
DE HUMA
XX
EN ESS
KW S197
KW PSO
KW P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-NOV-1996;
31-MAY-1994;
31-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention provides antisense oligonucleotides targeted to mRNA encoding human raf and capable of inhibiting raf expression. The antisense oligonucleotides are useful for treating and diagnosing abnormal proliferative states and hyperproliferation (e.g. cancer, psoriasis, or blood vessel restenosis), and inhibiting raf expression. Sequences AAXII511-573 and AAXII555-573 represent antisense
                                                                                                                                                                                                                                                                                                                                   Human; c-raf; protein kinase; antisense oligonucleotide; cancer; signal transduction; hyperplasia; pulmonary fibrosis; angiogenesis; psoriasis; atherosclerosis; smooth muscle cell proliferation; steno restenosis; inflammatory disorder; tissue graft rejection;
                              US6090626-A.
                                                                                                                                                                                                                                                                                                                       endotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human c-raf kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAA73490;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAA73490 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    oligonucleotides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oligonucleotides targeted to human raf {\tt mRNA} useful for treating diagnosing abnormal proliferative states and inhibiting raf expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Boggs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ISIS-) ISIS PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US5952229-A.
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                                                                                                                                                                                                modified_base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
nes 13; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTCCATTGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1999-527018/44.
                                                                                                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Column
                                                                                                                                                                                                                                                                                                                       shock;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Monia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BP; 5 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94US-0250856.
95WO-US07111.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96US-0756806
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                         /*tag= a
/mod_base= OTHER
/mod_base= OTHER
/note= "All or some nucleotides are optionally with
/note= "All or some nucleotides are optionally with
2'-methoxyethoxy, or 2'-0-propyl modification. Also,
optionally phosphodiester or phosphothicate backbone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9;
                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                  glomerular nephritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for human c-raf kinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15
                                                                                                                                                                                                                                                                                                                                                                                                                                                               antisense oligonucleotide #2 (Isis #5074, #7835, #7843).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86.7%; --
100.0%; Pr
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 13; DB
Pred. No. 4.3
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6 T; 0 other;
                                                                                                                                                                                                                                                                                                                       SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                         backbone"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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RESULT 14
AXX16583/
ID AAX1
XX AAX1
XX AAX1
XX POS1
XX HUMA
XX POR
XX POR
XX OVAT
COS SYNT
OS SYNT
OS SYNT
OS HOMO
XX WO97
XX WO97
XX YO97
XX AYA
PD 24-A
XX O7-C
XX PR O7-C
XX CO11
XX CO11
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Best Local S
Matches 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-MAY-1994;
31-MAY-1995;
26-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            e.g. stenosis or restenosis following angioplasty. Also, the present sequence may be useful for treating inflammatory disorders such as tissue graft rejection, endotoxin shock and glomerular nephritis.
                                                                                                                                                                                                                   ovary; bladder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    raf-associated cell hyperproliferation conditions such as cancer, hyperplasias, pulmonary fibrosis, angiogenesis, psoriasis, atheroscierosis and smooth muscle cell proliferation in blood vessels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             control. The present sequence is an antisense oligonucleotide. This sequence is targeted to human c-raf gene, resulting in c-raf expression inhibition. The present sequence may be useful for treating and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      play a fundamental role in signal transduction,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 31; Column 9; 31pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Antisense oligonucleotides targeted to nucleic acid molecule encoding human raf useful for diagnosis, treatment of raf-associated cell proliferative conditions such as cancer, psoriasis or blood vessel
              Collins C,
                                                                                             07-OCT-1996;
                                                                                                                        24-APR-1997
                                                                                                                                                  W09714811-A1
                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                         Position FLpter 0.825 chromosome abnormality PCR forward
                                                                                                                                                                                                                                                                                                    26-APR-1999
                                                                                                                                                                                                                                                                                                                               AAX16583;
                                                                                                                                                                                                                                                                                                                                                          AAX16583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    c-raf is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         restenosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Boggs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ISIS-) ISIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-JUL-2000
                                       (REGC ) UNIV CALIFORNIA
                                                                    20-OCT-1995;
                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                 PCR primer; probe;
                                                                                                                                                                                                                                            Human chromosome 20; position FLpter 0.825; chromosome abnormality;
                                                                                                                                                                                                                                                                                                                                                                                   14
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
                                                                                                                                                                                                                                                                                                                                                                                                                            \mathbf{L}
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTCCATTGATGC
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                                                                                                                                                                                                                                                                                                                                                                                                                            GCTCCATTGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l Similarity
13; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a serine-threonine-specific protein kinase and is thought to undamental role in signal transduction, and cell proliferation
                                                                                                                                                                                                                                                                                                                                                          standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Monia BP;
               Gray JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94US-0250856.
95WO-US07111.
96US-0756806.
                                                                    95US-0546130
                                                                                             96WO-US16085
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5 A;
                                                                                                                                                                                                                 head; neck; colon; comparative genome hybridisation;
                                                                                                                                                                                                                                                                                                                                                          DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       15
                                                                                                                                                                                                                                 hybridisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5 C; 4 G; 6 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            86.7%;
               Kallioniemi
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 13;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
               Ó
                                                                                                                                                                                                                                  detection;
               Pinkel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4.3e+02;
              Ď
                                                                                                                                                                                                                                  breast cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
               ¥,
                                                                                                                                                                                                                                                                         primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
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0,

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AAX16555/
ID AAX1
XX
AC AAX1
AC AAX1
AC AAX1
DE POSI
XX
EW Huma
KW Huma
KW PCR
KW Ovar
XX
OS Synt
OS Homo
XX
EW W097
PN W097
YN W097
Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           can be used to detect genomic amplifications in the 20q13 (especially the 20q13.2) amplicon, which is associated and indicative of the presence of a large number of cancers, e.g. primary tumours of breast, ovary, bladder, head and neck and colon cancers. The method uses the technique of comparative genome hybridisation (CGH) which is able to reveal amplifications and deletions in genomic chromosomes irrespective of genome rearrangements. However CGH also provides a more quantitative estimate of copy number than, e.g. Southern hybridisation, and also provides the localisation of the amplified or deleted region in a normal chromosome. Fluorescent in situ hybridisation was further performed using locus specific probes to confirm the CGH data and to precisely
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A method has been developed for detecting chromosomal abnormalities at about position Fipter 0.825 on the human chromosome 20. The method comprises: (i) contacting a chromosomal sample from a patient with at least 1 labelled probe, which binds to a target sequence at about position Fipter 0.825 on the human chromosome 20; and (ii) detecting the binding of the probes to the target sequence. AAX16549 to AAX16586 represent nucleic acid sequences to which the probes can hybridise. These nucleic acid sequences also represent PCR primers. The probes and method
                       Detection of abnormalities on human chromosome 20 at position 20q13 - is useful as indicator of presence of, e.g. primary breast tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Detection of abnormalities on human chromosome 20 at position 20q13 - is useful as indicator of presence of, e.g. primary breast tumours
                                                                                                                                                                                           Collins C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human chromosome 20; position FLpter 0.825; chromosome abnormality; PCR primer; probe; hybridisation; detection; breast cancer; tumour; ovary; bladder; head; neck; colon; comparative genome hybridisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX16555 standard; DNA;
                                                                                                                               WPI; 1997-245126/22
                                                                                                                                                                                                                                                                                                                       20-OCT-1995;
                                                                                                                                                                                                                                                                                                                                                                                      07-OCT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-APR-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9714811-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAX16555;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 20 BP; 9 A; 2 C; 5 G; 4 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1997-245126/22
                                                                                                                                                                                                                                                       (REGC ) UNIV CALIFORNIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Position FLpter 0.825 chromosome abnormality PCR forward primer #4
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92.9%;
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Pred. No. 9.6e+02;
0; Mismatches 1;
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CC represent nucleic acid sequences to which the probes can hybridise. These can be used to detect genomic amplifications in the 20q13 (especially con the 20q13.2) amplicon, which is associated and indicative of the presence of a large number of cancers, e.g. primary tumours of breast, ovary, consider, head and neck and colon cancers. The method uses the technique conformative genome hybridisation (CGH) which is able to reveal comparative genome hybridisation (CGH) which is able to reveal confict the localisation of the amplification, and deletions in genomic chromosomes irrespective of genome rearrangements. However CGH also provides a more quantitative confict the localisation of the amplified or deleted region in a normal chromosome. Fluorescent in situ hybridisation was further performed cusing locus specific probes to confirm the CGH data and to precisely map the region of the amplification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A method has been developed for detecting chromosomal abnormalities at about position FLpter 0.825 on the human chromosome 20. The method comprises: (i) contacting a chromosomal sample from a patient with at least 1 labelled probe, which binds to a target sequence at about position FLpter 0.825 on the human chromosome 20; and (ii) detecting the binding of the probes to the target sequence. AAX16549 to AAX16586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 2; Page 14; 40pp; English.
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밁 Ω Query Match Best Local 9 Matches 17 TGCTCCATTGATTC 4 2 TGCTCCATTGATGC 15 l Similarity 13; Conserv Conservative 82.7%; 92.9%; 0; Score 12.4; DB 18; Pred. No. 9.6e+02; Mismatches Indels Length 0,

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Sequence 20 BP; 9 A;

2 C; 5 G; 4 T; 0 other;

Search completed: October 24, Job time: 57.7273 secs 2002, 04:06:05

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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PCT-US95-07111A-47
US-08-957-327-2
US-08-958-084-2
US-08-958-07111A-1
PCT-US95-07111A-1
PCT-US95-07111A-1
PCT-US95-07111A-1
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ALIGNMENTS

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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, V
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/957,327
FILING DATE: 24-OCT-1997
CLASSIFICATION : 514
ATTORNEY/AGENT INFORMATION:
NAME: Hendricks, Glenna
REGISTRATION NUMBER: 32,535
REFERENCE/DOCKET NUMBER: kasid
TELEPHONE: (703) 591-4470
TELEPAX: (703) 591-4428
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 15 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TTOPOTLOGY: unknown
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                                                 Query Match
Best Local Similarity
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APPLICANT: Gokhale, Prafulla
APPLICANT: Dritschilo, Anatoly
APPLICANT: Rahman, Aqulur
TITLE OF INVENTION: Liposomes co
NUMBER OF SEQUENCES: 3
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                                                                                                                                   TOPOLOGY: unl
MOLECULE TYPE:
HYPOTHETICAL: I
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CITY: Fairfax
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE: VA
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1 GTGCTCCATTGATGC 15
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O. Box 2509
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                                                                                                                                                         DNA (genomic)
                                                 100.0%;
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                                                 Score 15; DB
Pred. No. 4.3;
                                  Mismatches
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                                                                 Length 15;
                                  Indels
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US-09-078-954-15
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US-08-957-327-3/c
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US-08-957-327-3
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                                                                                                                                             Sequence 15, Patent No. 6
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                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO:
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LENGTH: 15 base pairs
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APPLICANT
                        APPLICANT
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                                                                                                    APPLICANT:
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CURRENT APPLICATION DATA:
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                                                                            APPLICANT:
                                                                                         APPLICANT:
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ADDRESSEE: Hendricks and Assoc.
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APPLICANT: Gokhale, Pra
APPLICANT: Dritschilo,
APPLICANT: Rahman, Aqul
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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E: VA
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6287591
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                                 Ansell, Steven M.
Cullis, Pieter
Scherrer, Peter
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(703) Son
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                       Scherrer, Peter
Geiser, Timothy
           zon,
                                                                          Hope, Michael J.
                                                                                     Harasym,
                                                                                                   Klimuk, Sandra K.
                                                                                                                  SEMPLE,
                                                                                                                                                                                                                                                                                                                                                                                    unknown
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           Gerald
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Pred. No.
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; MOLECULE TYPE: 0; HYPOTHETICAL: no ; ANTI-SENSE: yes US-09-078-954-15
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Patent No. 6333314
GENERAL INFORMATION:
APPLICANT: Kasid, Usha
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Best Local
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SEQUENCE CHARACTERISTICS:
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TELEPHONE: (970) 668-2082
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OPERATING SYSTEM: DOS 5
SOFTWARE: Word Perfect
CURRENT APPLICATION DATA:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette,
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TITLE OF INVENTION: Lipid Vesic
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Oppedail & Larson
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REFERENCE/DOCKET NUMBER:
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Liposomes containng Oligonucelotides
                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                              STATE: VA
COUNTRY: U
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Pred. No.
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GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                       COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS_MS-DOS
SOFTWARE: Patentin Release #1.0, Ve:
CURRENT APPLICATION NUMBER: US/09/482,084
FILING DATE: 13-Jan-2000
CLASSIFICATION: <Unknown>
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REGISTRATION NUMBER: 32,535
REFERENCE/DOCKET NUMBER: kasi
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 591-4470
TELEPAX: (703) 591-4428
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1 GTGCTCCATTGATGC 15
         TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 591-4470
TELEFAX: (703) 591-4428
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ADDRESSEE: Hendricks and Assoc.
STREET: P.O. Box 2509
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TITLE OF INVENTION: Liposomes containg Oligonucelotides
NUMBER OF SEQUENCES: 3
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FILING DATE: «Unknown»
ATTORNEY/AGENT INFORMATION:
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HYPOTHETICAL: NO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Kasid, Usha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE DESCRIPTION: SEQ ID NO: 1:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/09482084
                                                                                                                                     APPLICATION NUMBER: 08/957,327 FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                          CITY: Fairfax STATE: VA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 15 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 13-Jan-2000 CLASSIFICATION: <Unknown>
                                                                  REGISTRATION NUMBER: 32, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: US
                                                                                                     NAME: Hendricks, Glenna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                        22031
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Dritschilo, Anatoly
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Pred. No.
                                                                                   32,535
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                                                                                                                                                                                                                                                              Version #1.25
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; TYPE: Nucleic Acid
; STRANDENESS: Single
; TOPOLOGY: Linear
; ANTI-SENSE: Yes
US-08-756-806A-47
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US-08-756-806A-47
; Sequence 47, Application US/08756806A
""+ent No. 5952229
""+ent No. 5952229
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   Matches
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Best Local
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                                                                                                                                                                         TELEFAX: (609) 810-14 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/756,806A
FILING DATE: No. 5952229ember 26,
                                                                                                                                                                                                                      REGISTRATION NUMBER: 32,257
REFERENCE/DOCKET NUMBER: IS
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: PCT/US95/07111
FILING DATE: May 31, 1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/250,856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
                                                                                                                                                          SEQUENCE CHARACTERISTICS:
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ATTORNEY/AGENT INFORMATION:
NAME: Jane Massey Licata
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Monia, Brett P. and Boggs, Russell T. TITLE OF INVENTION: Antisense Oligonucleotide Modulation TITLE OF INVENTION: of raf Gene Expression
                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
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              Local Similarity
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OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.1
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Conservative
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                                                                                                            Single
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Score 15; DE
Pred. No. 4.5
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                DB 2;
4.5;
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US-09-143-214-47
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                                                                                                                                                                                        RESULT 8
                                                                             Sequence 47, Application PC/TUS9507111A
GENERAL INFORMATION:
APPLICANT: Monia, Brett P. and Boggs, Russell T.
TITLE OF INVENTION: Antisense Oligonucleotide Modulation
TITLE OF INVENTION: of raf Gene Expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 47, Application US/09143214 Patent No. 6090626
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: May 31, 1994
ATTORNEY/AGENT INFORMATION:
NAME: Jane Massey Licata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: PCT/US95/0: FILING DATE: May 31, 1995
PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/250,856
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/143,214
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MEDIUM TYPE: DISKETTE,
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TITLE OF INVENTION: Antisense Oligonucleotide Modulation
TITLE OF INVENTION: of raf Gene Expression
                                              NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
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CORRESPONDENCE ADDRESS:
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STREET: 00
STREET: Marlton
STREET:
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FILING DATE: No. 6090626ember 26, 1996
APPLICATION NUMBER: PCT/US95/07111
                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: Nucleic Acid
STRANDEDNESS: Sing
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            2: Law Offices of Jane Massey Licata 210 Lake Drive East, Suite 201
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                         Patent No. 6126965
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APPLICANT: Kasid,
APPLICANT: Gokhale
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                          APPLICATION NUMBER: US/08/957,327
FILING DATE: 24-0CT-1997
CLASSIFICATION: 514
ATTORNEY/ACENT INFORWATION:
NAME: Hendricks, Glenna
REGISTRATION NUMBER: 32,535
                                                                                                                   COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Rel-Base #1.0, Version #1.25
CURRENT APPLICATION_DATA:
                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
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                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
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ANTI-SENSE:
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APPLICATION NUMBER: 08/250,856
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APPLICATION NUMBER: PC
REFERENCE/DOCKET NUMBER: ka
                                                                                                                                                                                                                                                                                                                                 APPLICANT: Rahman, Aqulur
TITLE OF INVENTION: Liposomes containg Oligonucelotides
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OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.1
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Pred. No.
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Query Match
Best Local Similarity
Watches 15; Conserve
                                                               US-09-482-084-2
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US-08-957-327-2
 Matches
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                                Query Match
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                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: 2:
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HYPOTHETICAL:
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/ Match 100.0%; (
Local Similarity 100.0%; (
nes 15; Conservative 0;
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STRANDEDNESS: single
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APPLICATION NUMBER: 08/957,327
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                       TOPOLOGY: unknown MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 591-4470
TELEFAX: (703) 591-4428
                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
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TITLE OF INVENTION: Liposomes containg Oligonucelotides
                                                                              SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                            HYPOTHETICAL:
                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
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                                                                                               ANTI-SENSE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0,
                                                                                                                                                      TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Fairfax
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Hendricks and Assoc. STREET: P.O. Box 2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/09482084
                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                  NAME: Hendricks, Glenna
REGISTRATION NUMBER: 32,535
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                                                                                                                                                                                       LENGTH: 25 base pairs
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Dritschilo, Anatoly
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              Score 15; DB 4;
Pred. No. 4.7;
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 Mismatches
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RESULT 11
US-08-250-856A-2
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US-08-756-806A-2
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                                                                                                                    Sequence 2, Application US/08756806A
patent No. 5952229
GENERAL INFORMATION:
APPLICANT: Monia, Brett P. and Boggs, Russell
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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LENGTH: 20
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CURRENT APPLICATION DATA:
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                                                           CORRESPONDENCE ADDRESS
                                                                         TITLE OF INVENTION: Antisense Oligonucleotide Modulation TITLE OF INVENTION: of raf Gene Expression NUMBER OF SEQUENCES: 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: (609) 779-2400
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nes 13; Conserv
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                              STREET:
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   STATE:
                                            ADDRESSEE:
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                           66 East Main Street
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VENTION: Antisense Oligonucleotide Modulation
                                                                                                                                                                                                                                                                                                                                                                                     Yes
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                                            Law Offices of Jane Massey Licata
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US-09-143-214-2
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Patent No. 6090626
GENERAL INFORMATION:
APPLICANT: Monia, Brett P. and Boggs, Russell T.
TITLE OF INVENTION: Antisense Oligonuclectide Modulation
TITLE OF INVENTION: of raf Gene Expression
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APPLICATION NUMBER: PCT/US95/07111
FILING DATE: May 31, 1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/250,856
FILING DATE: May 31, 1994
ATTORNEY/AGENT INFORMATION:
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                                             CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/756,806
FILING DATE: No. 6090626ember 26,
                                                                                                                                                   OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
PRIOR APPLICATION DATA:
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MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
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REGISTRATION NUMBER: 32,257
REFERENCE/DOCKET NUMBER: ISPH-0200
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
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               APPLICATION NUMBER: PCT/UFILING DATE: May 31, 1995
                                                                                                                  APPLICATION NUMBER: US/09/143,214 FILING DATE:
                                                                                                                                                               OPERATING SYSTEM:
SOFTWARE: WORDPER
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                                  PCT/US95/07111
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Pred. No.
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Query Match
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                                                                                   RESULT 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                EARLIER FILING DATE: 1995-08-01
NUMBER OF SEQ ID NOS: 25
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 1
LENGTH: 20
                                Sequence 2, Application PC/TUS9507111A GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
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APPLICANT: Sharman, Thomas
APPLICANT: Phillips, Judith A
APPLICANT: Nicklin, Paul L
APPLICANT: Hamilton, Karen O
TITLE OF INVENTION: Liposomal Oligonucleotide Compositions
FILE REFERENCE: 4-20536/A/MA 2112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/000,136
CURRENT FILING DATE: 1998-04-23
EARLIER APPLICATION NUMBER: GB 9515743.4
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                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA ORGANISM: Artificial Sequence
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APPLICANT: Monia, Brett P. and Boggs, Russell TITLE OF INVENTION: Antisense Oligonucleotide
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CORRESPONDENCE AND OFFICE AND ADDRESSE: Law Offices of Jane Massey Licata
STREET: 210 Lake Drive East, Suite 201
CITY: Cherry Hill
STATE: NJ
COUNTRY: USA
CIP 08002
COMPUTER: Law OFFICE FORM:
COMPUTER READABLE FORM:
COMPUTER: Law PS/2
COMPUTER: DESCRIPTE: 3.5 INCH, 1.44 Mb STORAGE
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ALIGNMENTS

RESULT 1
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Best Local Similarity
Matches 25; Conserv source Unknown.
Unclassified.
1 (bases 1 to 25)
1 (bases 1 to 25)
1 (bases 0 to 25)
Liposomes containing oligonucleotides
Patent: US 6126965-A 2 03-0CT-2000;
Location/Qualifiers
1. .25 AR110776 Sequence 2 from patent US AR110776 AR110776.1 GI:12827624 Unknown. Unknown 100.0%; iilarity 100.0%; i Conservative 0; /organism="unknown"
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SUMMARIES

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Monia,B.P. and Boggs,R.T.
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Patent: US 5952229-A 47 14-SEP-1999;
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Monia, B.P. and Boggs, R.T.

Antisense oligonucleotide modulation of Patent: US 5952229-A 3 14-SEP-1999;

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Antisense oligonucleotide regulation of raft gene expression Patent: JP 2000152797-A 3 06-JUN-2000; ISIS PHARMACEUTICALS INC OS Homo sapiens (human) PN JP 2000152797-A/3 PD 06-JUN-2000 JP 200008654 PT 8 31-MAY-1994 US 08/250856 PT MONIA BURETTO P, BOGGUZU RUSSELL T PC C12N15/00, A61K31/7088, A61K48/00, A61P17/06, A61P35/00, A61P43/00, PC C12N15/00, A
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Eukaryota; Metazoa; Chordata;
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J. 1.1e+02;
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Query Match 72.0%; Score 18; DB 6; L
Best Local Similarity 100.0%; Pred. No. 3.6e+02;
Matches 18; Conservative 0; Mismatches 0;
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Sequence 48
AR073979
AR073979.1
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Monia, B.P. and Boggs, R.T.
Antisense oligonuclectide modulation
Patent: US 5952229-A 48 14-SEP-1999;
                                                                                                                                                                                                                                                                                  Similarity
19; Conserv
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Monia, B.P. and Boggs, R.T.
Antisense oligonucleotide modulation
Patent: US 5563255-A 3 08-OCT-1996;
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/db_xref="taxon:9606"
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AR100937/c
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AR100922/c
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Sequence 9 f
AR100922
AR100922.1
                 AR073933
Sequence 2 :
AR073933
AR073933.1
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Unknown.
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Unknown.
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Nandabalan,K. and Rothberg,J.Marc.
Identification and comparison of protein-protein interactions that occur in populations
Patent: US 6083693-A 25 04-JUL-2000;
Location/Qualifiers
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Sequence
AR100937
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17; Conserv
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Nandabalan,K. and Rothberg,J.Marc.
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Patent: US 6083693-A 9 04-JUL-2000;
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AR105501
AR105501.1
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Monia,B.P. and Boggs,R.T.
Antisense oligonuclectide modulation
Patent: US 5952229-A 2 14-SEP-1999;
Location/Qualifiers
                                 Gray, D.M. and Bolion, A.P.
Libraries of optimum subsequence regions of mrna and genomic for control of gene expression
Patent: WO 0161030-A 43 23-AUG-2001;
Cytoclonal Pharmaceutics, Inc. (US); University of Texas at Dallas, Dept. of Molecular and Cell Biology (US); Lab. of Experimental Carcinogenesis, National Cancer Institute/NIH (UL)
                                                                                                                                                                                                         Sequence
AX224889
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown.
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Antisense oligonucleotide regulation of raft gene expression Patent: JP 2000152797-A 2 06-JUN-2000; ISIS PHARMACEUTICALS INC
OS Homo sapiens (human)
PN JP 2000152797-A/2
PD 06-JUN-2000
PF 18-JAN-2000 JP 2000008654
PR 31-MAX-1994 US 08/250856
PR 31-MAX-1994 US 08/250856
PI MONIA BURETTO P.BOGGUZU RUSSELL T
PC C12N15/09, A61K31/7088, A61K48/00, A61P17/06, A61P35/00, A61P43/00, PC C12N15/09, A61K31/7088, A61K48/00, A61P17/06, A61P35/00, A61P43/00, CC
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Gray, D.M. and Bollon, A.P.
Libraries of optimum subsequence regions of mrna and genomic dnifor control of gene expression
Patent: WO 0161030-A 44 23-AUG-2001;
Cytoclonal Pharmaceutics, Inc. (US); University of Texas at Dallas, Dept. of Molecular and Cell Biology (US); Lab. of Experimental Carcinogenesis, National Cancer Institute/NIH (US)
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1 (bases 1 to 20)
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ALIGNMENTS

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RESULT 1 AAT27527 Oligo:nucleotide(s) targetted to nucleic acids encoding human raf capable of inhibiting raf expression, used in treatment of hyper:proliferative disorders 31-MAY-1995; Antisense; anti-proliferative; tumour; cancer; raf; oncogene; psoriasis; restenosis; 3' untranslated region; ss. WPI; 1996-030518/03. 31-MAY-1994; 07-DEC-1995 WO9532987-A1 Synthetic. Mouse/rat c-raf start translation region antisense oligunucleotide 04-JUL-1996 AAT27527; AAT27527 standard; (ISIS-) ISIS PHARM INC RT, Monia BP; (first entry) 94US-0250856 95WO-US07111 DNA; 20 BP

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                           The invention provides antisense oligonucleotides targeted to mRNA encoding human raf and capable of inhibiting raf expression. The antisense oligonucleotides are useful for treating and diagnosing abnormal proliferative states and hyperproliferation (e.g. cancer, psoriasis, or blood vessel restenosis), and inhibiting raf expression.
                      Sequences rat c-raf.
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 Sequence
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                                                                                                                                     Oligonucleotides targeted to human raf mRNA useful for treating diagnosing abnormal proliferative states and inhibiting raf
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31-MAY-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                 PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                                                                                                                                                                                                                                                                                                                                                                                                       c-raf
                                                                                                                                                                                                                                     96US-0756806.
94US-0250856.
95WO-US07111.
                                                                                                                                                                                                                                                                                96US-0756806
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 Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Α;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80.0%; ~~
100.0%; Pr
0;
                                                                                                                                                                                                                                                                                                                                                                                                                      specific antisense oligo ISIS # 10711
                                                                                                                                                                                                                                                                                                                                                                                                                                           entry)
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4 C; 5 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4 C; 5 G; 7 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 65pp; English.
                                                                                                         29pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 20;
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 7 T;
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 0 other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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Query Match

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RESULT 3
AAA73535
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Matches
                                                                                                             Query Match
Best Local
                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31-MAY-1994;
31-MAY-1995;
26-NOV-1996;
                                                                                                                                                                                                                                                    control. The present sequence is an antisense oligonucleotide. This sequence is targeted to mouse and rat c-raf genes, resulting in c-raf expression inhibition. The present sequence may be useful for treating and raf-associated cell hyperproliferation conditions such as cancer, hyperplasias, pulmonary fibrosis, angiogenesis, psoriasis, hyperplasias, pulmonary fibrosis, angiogenesis, psoriasis, atherosclerosis and smooth muscle cell proliferation in blood vessels e.g. stenosis or restenosis following angioplasty. Also, the present sequence may be useful for treating inflammatory disorders such as tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Antisense oligonucleotides targeted to nucleic acid molecule human raf useful for diagnosis, treatment of raf-associated oppoliferative conditions such as cancer, psoriasis or blood to provide the conditions of the conditions are the conditi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            psoriasis; atherosclerosis; smooth muscle cell prolife restenosis; inflammatory disorder; tissue graft reject endotoxin shock; glomerular nephritis; mouse; rat; ss.
                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                             c-raf is a serine-threonine-specific protein kinase and is thought to play a fundamental role in signal transduction, and cell proliferation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAA73535 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   restenosis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-JUL-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     signal
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAA73535
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                        GTATGTGCTCCATTGATGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTATGTGCTCCATTGATGCA
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                                                                                                                                                                                                                                   rejection,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rattus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        transduction;
                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ISIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Monia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Column 14; 31pp;
                                                                                                                                                                                    BP; 4 A; 4 C; 5 G; 7 T; 0 other;
                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94US-0250856.
95WO-US07111.
96US-0756806.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              kinase; antisense oligonucleotide; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98US-0143214
                                                                                                                                                                                                                                   endotoxin shock and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            kinase
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                                                                                                             80.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hyperplasia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lasia; pulmonary fibrosis; angi
smooth muscle cell proliferati
sorder; tissue graft rejection;
                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                Score 20;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred.
                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          o.
                                                                                                                                                                                                                                glomerular nephritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.2;
                                                                                                                     2 B
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                                                                                                                                      21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               proliferation;
                                                                                                                                   Length 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Isis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vessel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #10711).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  stenosis;
                                                                                          Gaps
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RESULT 4
AAT127483
AD AAT27483
AD AAT27483
AC AAT7
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RESULT 5
AAT86617/c
ID AAT866
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AC AAT866
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DT 11-JUN
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                                                                                                                                                                                                                              Query Match
Best Local 9
                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                    AAT27481-T27507 are human c-raf kinase antisense oligonucleotides used for the inhibition of raf expression. The oligonucleotides (ONs) are targeted to either coding region, start or stop signal or 5′ or 3′ untranslated region (UTR) mRNA encoding human c-raf. The ONs may be phosphorothioate linked and may contain modifications at the 2′ position of the sugar molety. ONs are pref. complementary to either 3′ or 5′ UTRs, phosphorothioate linked and contain 2′-o-alkyl sugar modifications. The ONs are used to inhibit expression of human raf in partic. In conditions associated with hyperproliferation e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oligo:nucleotide(s) targetted to nucleic acids encoding capable of inhibiting raf expression, used in treatment hyper:proliferative disorders
   11-JUN-1998
                                   AAT86617;
                                                                AAT86617 standard; RNA; 20
                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 15; 65pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPT; 1996-030518/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Boggs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (ISIS-) ISIS PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-MAY-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Antisense;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human c-raf kinase translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-JUL-1996
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                                                                                                                                                               CCTGTATGTGCTCCATTGA 19
                                                                                                                                              CCTGTATGTGCTCCATTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RT,
                                                                                                                                                                                                             Similarity 19; Conserv
                                                                                                                                                                                                                                                                                                               restenosis,
                                                                                                                                                                                                                                                                                 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     anti-proliferative; tumour; cancer;
hioate; 2' sugar modification; psoria
                                                                                                                                                                                                             76.0%; ilarity 100.0%; Conservative
                                                                                                                                                                                                                                                                             BP; 3 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
 (first entry)
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1..20
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1.20
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                                                                                                                                                                                                                                                                                                               and psoriasis.
                                                                                                                                                                                                                                                                               6 C; 4 G; 7 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "all bases opt.
or 2'-0-propyl
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                                                                  ВP
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                                                                                                                                                                                                                              Score 19;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphorothicate linked
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                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contain 2'-0-methyl
sugar modifications"
                                                                                                                                                                                                                              DB 17;
6.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       psoriasis;
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                                                                                                                                                                                                                                               Length 20;
                                                                                                                                                                                                               Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human
of
                                                                                                                                                                                                             0;
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                                                                                                                                                                                                             Gaps
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                                                                                                                                                                                                                                                                                                                                                                            RESULT 6
AAZ11513
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
26-NOV-1996;
31-MAY-1994;
31-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic. Rattus sp.
                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                             05-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           state.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Crooke
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                                                                26-NOV-1996;
                                                                                               14-SEP-1999
                                                                                                                               US5952229-A
                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                             AAZ11513;
                                                                                                                                                                                                                                                                                                                                                             AAZ11513
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-JUN-1997;
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AAT86615-T86620 are oligonucleotides designed to be used in a novel method for cleaving RNA. These oligonucleotides act as artificial substrates for mammalian double stranded ribonucleases (daRNases), in particular, c-raf. Novel ribonucleases generated by this method could be used for treating an organism having a disease characterised by the undesired production of a protein encoded by the mRNA. They can also be used for identifying an mRNA or a protein or for diagnosing an aberrant
                                                                                                                                                                                                                                                                                   Human; raf; diagnosis; abnormal proliferative state; hyperproliferation; cancer; psoriasis; blood vessel restenosis; c-raf kinase; antisense; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Oligo:ribonucleotide analogues - ribonuclease substrates, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ribonuclease; analo treatment; disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 27; Page 93; 140pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1998-042110/04
                                                                                                                                                                                                                                                                                                                                                    Human c-raf kinase antisense oligo ISIS # 5075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CCTGTATGTGCTCCATTGA 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    c-raf targeted artificial substrate
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          l Similarity
19; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   analogue;
sease; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PHARM INC
96US-0756806.
94US-0250856.
95WO-US07111.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97WO-US09963
                                                                                       96US-0756806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
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Pred. No.
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. 6.8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      #2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 20;
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The present sequence is a sense RNA sequence which, when hybridised with its complement, was used as a substrate for a dsRNase. This type RNase, which specifically cleaves double-stranded RNA, is used in timethods of the invention and can be used to detect the presence of abnormal RNA or abnormal expression of RNA in organisms or cells. The can also be used to modulate enzyme activity in in vitro assays. The
                                                                                                                                                                 WPI;
                                                                                                                                                                                                                                                                                                                                                                                                    C-raf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention provides antisense oligonucleotides targeted to mRN encoding human raf and capable of inhibiting raf expression. The antisense oligonucleotides are useful for treating and diagnosing
                                                                                       Example
                                                                                                               comprising segments with specific nucleoside phosphorothicate internucleoside linkages -
                                                                                                                         Novel oligomeric compounds for diagnostic and research purposes, comprising segments with specific nucleoside subunits linked by
                                                                                                                                                                                                               (ISIS-) ISIS
                                                                                                                                                                                                                                       06-JUN-1996;
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                                                                                                                                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                                                                                                               abnormal
                                                                                                                                                                                                                                                                                                                                                                           dsRNase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       abnormal proliferative states and hyperproliferation (e.g. cancer, psoriasis, or blood vessel restenosis), and inhibiting raf expression. Sequences AAZ11511-537 and AAZ11565-573 represent antisense
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Column 9; 29pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Oligonucleotides targeted to human raf mRNA useful for treating and diagnosing abnormal proliferative states and inhibiting raf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Boggs
                                                                                                                                                                                                                                                                                        22-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAA92026;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAA92026 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              oligonucleotides for human c-raf kinase.
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                                                                                                                                                                                                                                                                                                                                                                                                 targeted
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                                                                                                                                                                                                                                                                                                                                                            activation; strand cleavage; sense oligonucleotide; RNA detection; enzyme activity modulation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20 BP; 3 A; 6 C; 4 G; 7 T; 0 other;
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                                                                                       column
                                                                                                                                                                                                                 PHARM INC
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100.0%; Pr
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Pred. No.
                                                                                      English.
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8.8
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RESULT 8
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Best Local
                                                                                                                     The present sequence is an antisense RNA sequence which, when hybridith its complement, was used as a substrate for a dsRNase. This transe, which specifically cleaves double-stranded RNA, is used in a methods of the invention and can be used to detect the presence of abnormal RNA or abnormal expression of RNA in organisms or cells. I can also be used to modulate enzyme activity in in vitro assays. The present sequence contains 2'-methoxyphosphorothicate wings on either of an 8 base ribonucleotide gap having either nhoenhadiant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             present sequence has phosphodiester linkages in an 8 base gap with flanks having residues with phosphorothioate linkages either with or without 2^\prime-methoxynucleosides.
                                                                                                                                                                                                                                                      Novel oligomeric compounds for diagnostic and research purposes comprising segments with specific nucleoside subunits linked by phosphorothicate internucleoside linkages
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C-raf
                                                                                         Sequence
                                                                                                               phosphorothioate linkages.
                                                                                                                                                                                                                              Example 27a;
                                                                                                                                                                                                                                                     phosphorothioate internucleoside linkages
                                                                                                                                                                                                                                                                                                                        Crooke
                                                                                                                                                                                                                                                                                                                                             (ISIS-) ISIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   abnormal
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CCUGUAUGUGCUCCAUUGA
                     CCTGTATGTGCTCCATTGA
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19; Conserv
                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RNA
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                                                                                         20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              activation; strand cleavage; antisense oligonucleotide;
                                                                                         BP;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BP; 7 A; 4 C; 6 G; 3 U; 0 other;
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                                                                                                                                                                                                                                                                                                                                              PHARM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   detection; enzyme activity modulation;
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                                                       76.0%;
                                                                                         6 C; 4
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                                                         Pred.
                                                                 Score 19;
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Pred. No.
                                                                                                                                                                                                                              English.
                                                                                         7 U;
                                             Mismatches
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                                                        No.
                                                                                         0 other;
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                                                       DB;
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BB
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                                              Indels
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RESULT 9 AAA73491

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RESULT 10
AAT27528
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Best Local S
Matches 19
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31-MAY-1995;
26-NOV-1996;
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                                                                                                                                                 hyperplasias, pulmonary fibrosis, angiogenesis, psoriasis, atherosclerosis and smooth muscle cell proliferation in blood vessels e.g. stenosis or restenosis following angioplasty. Also, the present sequence may be useful for treating inflammatory disorders such as tissue graft rejection, endotoxin shock and glomerular nephritis.
                                                                                                                                                                                                   control. The present sequence is an antisense oligonucleotide. This sequence is targeted to human c-raf gene, resulting in c-raf express inhibition. The present sequence may be useful for treating and raf-associated cell hyperproliferation conditions such as cancer,
                                                                                                                                                                                                                                         c-raf is a serine-threonine-specific protein kinase and is thought to play a fundamental role in signal transduction, and cell proliferation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo
  AAT27528 standard;
                                                                                                                                Sequence
                                                                                                                                                                                                                                                                          Disclosure; Column 9;
                                                                                                                                                                                                                                                                                                Antisense oligonucleotides targeted to nucleic acid molecule encoding human raf useful for diagnosis, treatment of raf-associated cell proliferative conditions such as cancer, psoriasis or blood vessel restenosis
                                                                                                                                                                                                                                                                                                                                                                    Boggs RT,
                                                                                                                                                                                                                                                                                                                                                                                        (ISIS-) ISIS PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                     28-AUG-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                modified_base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human c-raf kinase antisense
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                                                 CCTGTATGTGCTCCATTGA 19
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19; Conserv
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                                                                                                                               BP; 3 A; 6 C; 4 G; 7 T; 0 other;
                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                           94US-0250856.
95WO-US07111.
96US-0756806.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /mod_base= OTHER
/note= "All or some nucleotides are optionally with
/note= "All or some nucleotides are optionally with
2'-methoxyethoxy, or 2'-O-propyl modification. Also,
optionally phosphodiester or phosphothioate backbone"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
1..20
  DNA;
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Pred. No.
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                                                                                        Mismatches
                                                                                                 6.8;
                                                                                                           DB 21;
                                                                                       0;
                                                                                                           Length 20
                                                                                        Indels
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AAZ11558
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Query Match
Best Local :
Mus sp.
Rattus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oligo:nucleotide(s) targetted to nucleic acids encoding capable of inhibiting raf expression, used in treatment
                                                                                                                                                                   05-NOV-1999
                                                                                                                                                                                                        AAZ11558;
                                                                                                                                                                                                                                           AAZ11558 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 23; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hyper:proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31-MAY-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9532987-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Antisense;
                                    Synthetic.
                                                                       cancer;
                                                                                             Mouse;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Boggs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (ISIS-) ISIS PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mouse/rat c-raf start translation region antisense oligunucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAT27528;
                                                                                                                                                                                                                                                                                                                                      CCTGTATGTGCTCCATTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nT
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                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RT,
                                                                       diagnosis; abnormal proliferative state; hyperproliferation;
; psoriasis; blood vessel restenosis; c-raf; rat; antisense;
                                                                                                                                                                                                                                                                                                                                                                                                                18;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            partic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             restenosis,
                                                                                                                              Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Monia BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                anti-proliferative; tumour; cancer;
restenosis; 3' untranslated region;
                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BP; 2 A; 6 C; 4 G; 8 T; 0 other;
                                                                                                                                                                   (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                            c-raf
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95WO-US07111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in conditions associated with hyperproliferation e.g.
                                                                                                                                                                                                                                           DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and
                                                                                                                            specific
                                                                                                                                                                   entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   72.0%;
                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             psoriasis.
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                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                              antisense oligo
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cancer; raf; oncogene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 17;
                                                                                                                              ISIS # 10712
                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 20
                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      human raf
of
                                                                                                                                                                                                                                                                                                                                                                                                              0;
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RESULT 12
AAA73536
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Best Local S
Matches 18
                                                                                 31-MAY-1994;
31-MAY-1995;
26-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI;
  Antisense
                                                                                                                                                                                              Rattus
                                                                                                                                                                                                                   signal transduction; hyperplasia; pulmonary fibrosis; angiogenesis; psoriasis; atherosclerosis; smooth muscle cell proliferation; steno restenosis; inflammatory disorder; tissue graft rejection; endotoxin shock; glomerular nephritis; mouse; rat; ss.
                                        Boggs
                                                             (ISIS-) ISIS
                                                                                                                                                                   US6090626-A
                                                                                                                                                                                                                                                             c-raf;
                                                                                                                                                                                                                                                                                 Mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          psoriasis, or blood vessel restenosis), ar
Sequences Z115511-564 represent antisense
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           abnormal proliferative states and hyperproliferation (e.g. psoriasis, or blood vessel restenosis), and inhibiting raf Sequences Z115511-564 represent antisense oligonucleotides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention provides antisense oligonucleotides targeted to mRN encoding human raf and capable of inhibiting raf expression. The antisense oligonucleotides are useful for treating and diagnosing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Oligonucleotides targeted to human raf mRNA useful for treating and diagnosing abnormal proliferative states and inhibiting raf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Boggs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-NOV-1996;
31-MAY-1994;
                                                                                                                          28-AUG-1998;
                                                                                                                                               18-JUL-2000
                                                                                                                                                                                                                                                                                                      28-NOV-2000
                                                                                                                                                                                                                                                                                                                                              AAA73536 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (ISIS-) ISIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                  w
                    2000-531424/48.
                                                                                                                                                                                                                                                                                                                                                                                                 CCTGTATGTGCTCCATTG
                                                                                                                                                                                                                                                                                                                                                                                                           CCTGTATGTGCTCCATTG 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1999-527018/44.
                                          RΤ,
                                                                                                                                                                                                                                                                                and rat a-raf kinase antisense oligonucleotide #8 (Isis #10712).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RT,
                                                                                                                                                                                                  rattus
                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                                                                                                                                                                                        18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
 oligonucleotides targeted
                                          Monia BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Monia BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Column 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                      larity 100.0%;
Conservative 0;
                                                             PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PHARM INC
                                                                                                                                                                                                                                                                                                      (first
                                                                                94US-0250856.
95WO-US07111.
96US-0756806.
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94US-0250856.
95WO-US07111.
                                                                                                                                                                                                                                                             kinase;
                                                                                                                          98US-0143214
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Α,
                                                                                                                                                                                                                                                                                                                                              DNA;
                                                                                                                                                                                                                                                                                                    entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6 C; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                            72.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29pp;
                                                                                                                                                                                                                                                             antisense oligonucleotide;
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                                                                                                                                                                                                                                                                                                                                              ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
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 molecule
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for mouse and
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encoding
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CCTGTATGTGCTCCATTG

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The present sequence was used in the development of a novel method for the detection of one or more protein protein interactions. The method can be used for comparative analysis of protein-protein interactions that occur in two or more different tissue/cell-types, disease states or stages of development. The genes encoding the proteins involved in these interactions, can be identified and isolated rapidly. The method can also be used for concurrent identification of inhibitors of the protein-protein interactions.

Example;

Page

274; 426pp;

English.

for

assembling

that characterise

a given population, and

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therapeutic

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                                                                                                                        Best
                                                  Matches
                                                                                  Query Match
                                                                                                                                                        e.g. stenosis or restenosis following angioplasty. Also, the present sequence may be useful for treating inflammatory disorders such as tissue graft rejection, endotoxin shock and glomerular nephritis.
                                                                                                                                                                                                                                                                  c-raf is a serine-threonine-specific protein kinase and is thought to play a fundamental role in signal transduction, and cell proliferation control. The present sequence is an antisense oligonucleotide. This sequence is targeted to mouse and rat c-raf genes, resulting in c-raf expression inhibition. The present sequence may be useful for treating
                                                                                                                                                                                                           and raf-associated cell hyperproliferation conditions such as hyperplasias, pulmonary fibrosis, angiogenesis, psoriasis, atherosclerosis and smooth muscle cell proliferation in blood
                                                                                                                                                                                                                                                                                                                                                                                                                       human raf useful for diagnosis, treatment of raf-associated proliferative conditions such as cancer, psoriasis or blood restenosis -
                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                               Disclosure;
                                                                   Local
1 CCTGTATGTGCTCCATTG 18
                                                                   Similarity
                                                                                                                      20 BP; 2 A; 6 C; 4 G; 8 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                         Column 14; 31pp; English
                                                  Conservative
                                                                 100.0%;
                                                                                    72.0%;
                                                  0,
                                                                   Score 18;
Pred. No.
                                                Mismatches
                                                                 DB
21;
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                                                                                    Length
                                                                                                                                                                                                                 in blood vessels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     cell
                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                  vessel
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                                                  Gaps
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RESULT 13
AAV05430/c
ID AAV054
XX AAV054
XX AAV054
AC AAV054
XX Primer
XX PCR pr
XX PCR pr
XX Synthe
XX Synthe
XX HO974;
XX 18-DE(
XX 13-JU)
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XX WPI;
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PT usefu
XX ITHE F
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Identification
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kalbfleisch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-JUN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-DEC-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCR primer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  05-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV05430;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAV05430 standard; DNA; 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (CURA-) CURAGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RASSfiS used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein-protein interaction; detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97WO-US10392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Knight
                                                                                                                                                                                                                                                                                                                                                                                                                                      comparison of protein-protein interactions -
ing and processing unified databases of sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein-protein interaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nandabalan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ζ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rothberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     detection
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RESULT 14
AAVO5418/c
ID AAVO5418;
XX
AAVO5418;
XX
AC AAVO5418;
XX
DT O5-JUN-1998 (first |
XX
Primer used in protein |
XX
PROR primer; protein |
XX
PROR PCR PTIMER; protein |
XX
PROP17763-A1.
XX
PROP18-DEC-1997; 97WO-
XX
PROP18-DEC-1997; 97WO-
XX
PROP18-DEC-1997; 97WO-
XX
XX
PROP197 13-JUN-1996; 96US-
PROP197 14-JUN-1996; 96US-
XX
PROP198-052326/05.
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PROP198-052326/05.
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Identification and c
PT useful for assemblin
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CC The proteins involved in
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SQ Sequence 40 BP; 10 A
AAA72878/c
ID AAA72878 standard; I
XX
AC AAA72878;
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                                                                                                                        В
                                                                                                                                                    Š
                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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                                                                                                                                                                                                                                                                                                    The present sequence was used in the development of a novel method for the detection of one or more protein-protein interactions. The method can be used for comparative analysis of protein-protein interactions that occur in two or more different tissue/cell-types, disease states or stages of development. The genes encoding the proteins involved in these interactions, can be identified and isolated rapidly. The method can also be used for concurrent identification of inhibitors of the protein-protein interactions that characterise a given population, and which have therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1998-052326/05.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example; Page 262; 426pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (CURA-) CURAGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Identification and comparison of protein-protein interactions useful for assembling and processing unified databases of sequ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity les 17; Conserv
                                                                                                                        35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CCTGTATGTGCTCCATTG 18
                                                                                                                                       CCTGTATGTGCTCCATTG 18
                                                                                                                      CCTGTATGTGCTCCATGG 18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein-protein interaction; detection; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in protein-protein interaction detection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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                                                                                                                      a transcriptional activator or to the activation domain of a transcriptional activator. The present sequence is a PCR primer used in the present invention to amplify yeast fusion genes. The present method may be used to identify protein protein interactions and genes encoding the interacting proteins relevant to a particular tissue, stage or disease e.g. cancer.
                                                                                                                                                                                                The present invention relates to methods for detecting and isolating genes encoding proteins that interact with each other, via the reconstitution of a transcription factor and hence reporter gene activation. Proteins are fused to either the yeast DNA-binding domain of
                                                                                                                                                                                                                                                                                      Detecting protein-protein interactions in protein populations useful for identifying genes encoding the proteins, and inhibitors of the interactions, by detecting transcriptional regulation leading to reporter gene activation \,
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                                                                                                 Sequence 40 BP; 10 A; 9 C; 16
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Copyright (c) 1993 - 2002 Compugen Ltd.
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PCT-US-95-113-214-3
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US-08-870-608-6
PCT-US-95-07111A-3
US-08-870-608-6
PCT-US-95-07111A-3
US-08-874-825-9
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US-08-874-825-9
US-08-91-830A-1
PCT-US-95-07111A-2
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US-09-482-084-2
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                                 Sequence 47, Application US/08756806A
Patent No. 5952229
GENERAL INFORMATION:
APPLICANT: Monia, Brett P. and Boggs, Russell T.
TITLE OF INVENTION: Antisense Oligonuclectide Modulation
TITLE OF INVENTION: of raf Gene Expression
NUMBER OF SEQUENCES: 65
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Best Local (
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TELEPHONE: (703) 591-4470
TELEPHONE: (703) 591-4428
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 base pairs
                     CORRESPONDENCE ADDRESS:
   ADDRESSEE:
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FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/482,084
FILING DATE: 13-Jan-2000
CLASSIFICATION: -Unknown>
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MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0,
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CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Liposomes containg Oligonucelotides
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25; Conservative
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STRANDEDNESS: single
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Law Offices of Jane Massey Licata
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Rahman, Aqulur
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                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
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REGISTRATION NUMBER: 1SF
REFERENCE_DOCKET NUMBER: ISF
TELECOMMUNICATION INFORMATION:
(609) 779-2400
                                                                                                                                                                                                                                                                                                                APPLICANT: Monia, I
TITLE OF INVENTION:
TITLE OF INVENTION:
                             CLASSIFICATION: PRIOR APPLICATION DATA:
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ATTORNEY/AGENT INFORMATION:
NAME: Jane Massey Licata
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LENGTH: 20
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APPLICATION NUMBER:
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                                                              APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                           ZIP: 08053
                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                      CITY: Marlton
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OPERATING SYSTEM:
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CITY: Marlton
APPLICATION NUMBER: 08/756,806 FILING DATE: No. 6090626ember 26,
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                                                                                                                                                                                                                                                                                                                  ia, Brett P. and Boggs, Russell T.
ION: Antisense Oligonucleotide Modulation
ION: of raf Gene Expression
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100.0%; Pr
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5952229ember 26,
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                                                                               US/09/143,214
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Pred. No.
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APPLICATION NUMBER: PCT/U FILING DATE: May 31, 1995 PRIOR APPLICATION DATA:

PCT/US95/07111

08/250,856

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                                                                                                  TELEFAX: (609) 779-8488 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Law Offices of Jane Massey Licata
STREET: 210 Lake Drive East, Suite 201
                                                                                                                              REFERENCE/DOCKET NUMBER: IS TELECOMMUNICATION INFORMATION: TELEPHONE: (609) 779-2400
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TOPOLOGY:
                                                                                 SEQUENCE CHARACTERISTICS:
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APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                      SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
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TITLE OF INVENTION:
TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PS,
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                      FILING DATE: May 31, 1995 CLASSIFICATION:
                                                                                                                                                                              NAME: Jane Massey Licata
REGISTRATION NUMBER: 32,257
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Cherry Hill
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                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
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                                                                 LENGTH:
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                                               Nucleic Acid
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NVENTION: Antisense Oligonucleotide Modulation
VENTION: of raf Gene Expression
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US-08-756-806A-3
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US-08-250-856A-3
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GENERAL INFORMATION:
                                                                                     Sequence 3, Application US/08756806A Patent No. 5952229
GENERAL INFORMATION:
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SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
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NAME: Jane Massey Licata
REGISTRATION NUMBER: 32,257
REFERENCE/DOCKET NUMBER: IS!
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CORRESPONDENCE ADDRESS:
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TITLE OF INVENTION: Antisense Oligonucleotide Modulation
TITLE OF INVENTION: of raf Gene Expression
                                            APPLICANT: Monia, Brett P. and Boggs, Russell T. TITLE OF INVENTION: Antisense Oligonucleotide Modulation TITLE OF INVENTION: of raf Gene Expression
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                             NUMBER OF SEQUENCES:
                 CORRESPONDENCE ADDRESS
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STREET: 210 Lake Drive East, Suite 201
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Law Offices of Jane Massey Licata
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100.0%; Pr
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                                                                                                                                                                                                                                                                            Pred.
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STREET: 66 Ea: CITY: Marlton

66 East Main Street

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US-09-143-214-3
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                                            OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDDERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/143,214
FILING DATE:
CLASSIFICATION:
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Best Local Similarity
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FILING DATE: No. 5952229ember 26, 19
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/07111
FILING DATE: May 31, 1995
PRIOR APPLICATION DATA:
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INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/756,806
FILING DATE: No. 6090626ember 26, 1996
                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH,
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MEDIUM TYPE: DISKETTE,
                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 6
                                                                                                                                                                                                                                                                                                                                               APPLICANT: Monia, Brett P. and Boggs, Russell T.
TITLE OF INVENTION: Antisense Oligonucleotide Modulation
TITLE OF INVENTION: of raf Gene Expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: May 31, 1994
ATTORNEY/AGENT INFORMATION:
NAME: Jane Massey Licata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                            CITY: Marlton
                                                                                                                                                                                                                                                                                STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: Nucleic Acid STRANDEDNESS: Sing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Jane Massey Licata
REGISTRATION NUMBER: 32,2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OPERATING SYSTEM:
                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                  ADDRESSEE:
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5952229ember 26, 1996
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US-08-870-608-5
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US-08-870-608-5/c
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Query Match
Best Local S
Matches 19
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Patent No. 6107094
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Best Local Similarity
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                                                                                                                                           TELEPHONE: 215-568-310
TELEFAX: 215-568-3439
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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FILING DATE: May 31, 1
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08
FILING DATE: May 31, 1
                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch disk, 1.44 Mb
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 8.0
                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: IS TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: IS TELECOMMUNICATION INFORMATION: TELEPHONE: (609) 779-2400
                                                                                                                                                                                                                                                                      FILING DATE: 06-JUN-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Washburn Kurtz Macklewicz & No. 6107094ris LLP STREET: One Liberty Place - 46th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Stanley T. Crooke TITLE OF INVENTION: Oligonucl TITLE OF INVENTION: RNA
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NAME: Jane Massev Licata
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
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                                                                           TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                          NAME: Joseph Lucci
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Philadelphia
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                                                                                                                              LENGTH:
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                Similarity
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EDNESS: Single
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               76.0%; Score 19; DB 3; 100.0%; Pred. No. 0.79;
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Mismatches
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0.79;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: 215-568-3439
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: JOSEPH LUCCI
REGISTRATION NUMBER: 33,307
REFERENCE/DOCKET NUMBER: ISIS
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 6107094ris LLP STREET: One Liberty Place - 46th Floor
          COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
                                                                                                                                                          APPLICANT: Monia, Brett P. and Boggs, Russell T.
TITLE OF INVENTION: Antisense Oligonuclectide Modulation
TITLE OF INVENTION: of raf Gene Expression
NUMBER OF SEQUENCES: 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: WOrdPerfect 8.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/870,608
FILING DATE: 06-UN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch disk, 1.44 Mb
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                STREET: ZIV CITY: Cherry Hill
STATE: NJ
                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Law Offices of Jane Massey Licata
STREET: 210 Lake Drive East, Suite 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
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mes 12; Conserv
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COMPUTER:
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IBM PS/2
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63.2%;
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RESULT 12
US-08-756-806A-48
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 48, Application US/08756806A Patent No. 5952229
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (609) 779-8488
INFORMATION FOR SEQ ID NO: ...
                                                                                                                                                                                                        CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/07111
FILING DATE: May 31, 1995
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: 08/250,856
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION WINBER: US/08/756,806A
FILING DATE: No. 5952229ember 26, 1996
                             NAME: Jane Massey Licata
REGISTATION NUMBER: 32,257
REFERENCE/DOCKET NUMBER: IS!
TELECOMMUNICATION INFORMATION:
                                                                                                                               APPLICATION NUMBER: 08/25
FILING DATE: May 31, 1994
ATTORNEY/AGENT INFORMATION:
NAME: Jane Massey Licata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 08053
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Monia, Brett P. and Boggs, Russell T. TITLE OF INVENTION: Antisense Oligonucleotide Modulation TITLE OF INVENTION: of raf Gene Expression
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ANTI-SENSE:
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OPERATING SYSTEM: 1
SOFTWARE: WORDPERFI
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STRANDEDNESS: Single
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CLASSIFICATION:
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TELEPHONE:
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WORDPERFECT 5.1
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(609) 779-2400
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100.0%; Pr
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Pred. No
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INFORMATION FOR SEQ ID NO:

(609)

810-1454

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; TOPOLOGY: Line; ANTI-SENSE: Yes US-08-756-806A-48
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Best Local Similarity
""trhes 18; Conserv
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US-09-143-214-48
                                                                                                                 US-09-143-214-48
                                                                      Query Match
Best Local
                                                         Matches
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Patent No. 6090626
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                                                                                                                                                                                                                  TELEFAX: (609) 810-1454 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 32,257
REFERENCE/DOCKET NUMBER: ISPH-0200
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                          FILING DATE: May 31, 1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/250,856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
                                                                                                                              ANTI-SENSE:
                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
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APPLICATION NUMBER: 08/756,806
FILLING DATE: NO. 6090626ember 26,
APPLICATION NUMBER: PCT/US95/07111
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                                                                                                                                                                                                                                                                                                               FILING DATE: May 31, 1994 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/09/143,214 FILING DATE:
                                                                                                                                                          STRANDEDNESS:
                                                                                                                                                                                                                                                                                     NAME: Jane Massey Licata REGISTRATION NUMBER: 32,
                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
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TOPOLOGY:
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EDNESS: Single
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Franklisense Oligonucleotide Modulation
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RESULT 15
US-08-874-825-9/c
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PCT-US95-07111A-48
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GENERAL INFORMATION:
APPLICANT: Monia, Brett P. and Boggs, Russell T.
TITLE OF INVENTION: Antisense Oligonucleotide Modulation
TITLE OF INVENTION: of raf Gene Expression
NUMBER OF SEQUENCES: 54
CORRESPONDENCE ADDRESS:
ADDRESSE: Law Offices of Jane Massey Licata
STREET: 210 Lake Drive East, Suite 201
                                                                                                                                                                                                                                                               Sequence 9, Application US/08874825 Patent No. 6057101 GENERAL INFORMATION:
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APPLICATION NUMBER: 08/250
APPLICATION NAME: May 31, 1995
ATTORNEY/AGENT INFORMATION:
NAME: Jane Massey Licata
REGISTRATION NUMBER: 32,25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (609) 779-8488
INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                       APPLICANT: 1019, James
APPLICANT: Knight, James
TITLE OF INVENTION: IDENTIFICATION AND COMPARISON OF THESE INTERACTORS
TITLE OF INVENTION: AND IDENTIFICATION OF INHIBITORS OF THESE INTERACTORS
TITLE OF SECURES: 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: IS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (609) 779-2400
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SOFTWARE: WORDPERFECT
CURRENT APPLICATION DATA:
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CITY:
STATE:
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nes 18; Conserv
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STRANDEDNESS: Single
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FILING DATE: May 31, 1995
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Yang, Meijia
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Pred. No.
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COUNTRY: USA
IIP: 10036/2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM COMPATINE
COMPATI
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Minimum
Maximum
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Perfect score:
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Maximum Match
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seq length: 50
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Match Length DB
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Gapop 10.0 , Gapext 1.0
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Listing first 45 summaries
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ALIGNMENTS

BASE COUNT ORIGIN REFERENCE AUTHORS TITLE JOURNAL FEATURES KEYWORDS SOURCE ORGANISM DEFINITION ACCESSION RESULT 1 AR110775/c LOCUS VERSION Query Match 100.0%; Score 15; DB 6; Best Local Similarity 100.0%; Pred. No. 4.2e+02; Matches 15; Conservative 0; Mismatches 0; source l (bases 1 to 15)

Rasid,U., Gokhale,P., Dritschilo,A. and Rahman,A.
Liposomes containing oligonuclectides
Patent: US 6126965-A 1 03-OCT-2000;
Location/Qualifiers Sequence 1 from patent US 6126965. ARI10775 ARI10775.1 GI:12827623 Unknown. Unclassified. Unknown. Ð /organism="unknown" 4 c 4 g G 4 DNA Length 15; Indels linear PAT 14-FEB-2001 0, Gaps 0;

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RESULT 4
AR073978/c
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AR167449
AR167449.1
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1 (bases 1 to 15)
Semple, S.C.; Kilmuk, S.K., Harasym, T., Hope, M.J.,
Cullis, P., Scherrer, P. and Debeyer, D.
Charged therapeutic agents encapsulated in lipid containing four lipid components
containing four lipid components
Patent: US 6287591-A 15 11-SEP-2001;
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Location/Qualifiers
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AR110777
                  Sequence 47 from AR073978
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Sequence 2 :
AR110776
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Monia, B.P. and Boggs, R.T.

Antisense oligonuclectide modulation
Patent: US 5952229-A 2 14-SEP-1999;
Location/Qualifiers
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Monia, B.P. and Boggs, R.T.
Antisense oligonucleotide modulation
Patent: US 5952229-A 47 14-SEP-1999;
Location/Qualifiers
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15; Conser
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1 (bases 1 to 25)

Kasid, U., Gokhale, P., Dritschilo, A. ar Liposomes containing oligonuclectides Patent: US 6126965-A 2 03-OCT-2000; Location/Qualifiers
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                                                                                   Antisense oligonucleotide regulation of raft gene expression
AL Patent: JP 2000152797-A 2 06-JUN-2000;
ISIS PHARMACEUTICALS INC
OS HOMO Sapiens (human)
PN JP 2000152797-A/2
PD 06-JUN-2000
PF 18-JAN-2000 JP 2000008654
PR 31-MAX-1994 US 08/250856
PR 31-MAX-1994 US 08/250856
PC C12N15/09, A61K31/7088, A61K48/00, A61P17/06, A61P35/00, A61P43/00,
PC C12N15/09, A61K31/7088, A61K48/00, A61P17/06, A61P35/00, A61P43/00,
PC Key Location/Qualifiers
FT source 1.20
/organism-'Homo sapiens (human)'.
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Sequence 1
AR105501
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Liposomal oligonucleotide compositions
Patent: US 6096720-A 1 01-AUG-2000;
Location/Qualifiers
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
1 (bases 1 to 20)
P,M.B. and T,B.R.
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JP 2000152797-A/2.
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Love, W.Guy, Nicklin, P.Leslie,
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1 (bases 1 to 20)
3 Monia, B. P. and Boggs, R.T.
4 Antisense oligonucleotide modulation of L. Patent: US 5563255-A 2 08-OCT-1996; L. Patent: US 2563255-A 2 08-OCT-1996; 1. Docation/Qualifiers
                                                                                                                                                                                                                             1 (bases 1 to 20)
Gray, J.W., Collins, C., Pinkel, D., Kal
Amplifications of chromosomal region
indicator in breast cancer
Patent: US 5801021-A 7 01-SEP-1998;
Location/Qualifiers
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5 c 4 g
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from patent US 5892010
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Pred. No. 1
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AX289556
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AX294189
Barany, F., Zirvi, M., Gerry, N.P., Favis, R. and Kliman, R. Method of designing addressable array for detection of sequence differences using ligase detection reaction Patent: WO 0179548-A 1318 25-OCT-2001; CORNELL RESEARCH FOUNDATION, INC. (US)
                                                                                                    synthetic construct. synthetic construct
                                                                                                                                                                                                                                                                                                                                                                                                                    Barany, F., Zirvi, M., Gerry, N.P., Favis, R. and Kliman, R. Method of designing addressable array for detection of nucleic sequence differences using ligase detection reaction Patent: WO 0179548-A 5951 25-OCT-2001; CORNELL RESEARCH FOUNDATION, INC. (US)
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synthetic construct
artificial sequence.
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Gray, J., Collins, C., Hwang, S., Godfrey, T., Kowbel, D.
Genes from the 20213 amplicon and their uses
Patent: US 5892010-A 15 06-APR-1999;
                                                                                        artificial sequence.
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/db_xref="taxon:32630"
/note="Hypothetical Probe Sequenty 4 c 5 g 6 t
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Unclassified.
1 (bases 1 to 27)
1 (bases 1 to 27)
3 Stinchcomb,D.T. and McSwiggen,J.A.
Interleukin-2 receptor gamma-chain ribozymes
L Patent: US 5807743-A 172 15-SEP-1998;
L Cocation/Qualifiers
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AR073934
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AR039324
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Monia,B.P. and Boggs,R.T.
Antisense oligonucleotide modulation of
Patent: US 5952229-A 3 14-SEP-1999;
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/organism="synthetic con/db_xref="taxon:32630"
/note="Hypothetical Pro/
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21-MAR-1997; 97Us-RESULT 1 Human; antisense; c-raf-1; oligodeoxyribonucleotide; ODN/oligo; tumour tissue; cancer; radiation therapy; radiosensitise; antisense; Human antisense c-raf-1 oligodeoxyribonucleotide liposome carrier system; (first entry) 97US-0957327 97US-0041192 98WO-US05303 /note= 15 Location/Qualifiers /note= /*tag= DNA; b
"C-terminal base is phosphothioated" "N-terminal base 15 ВP is phosphothioated"

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RESULT 2
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Klimuk SK,
Composition containing lipid-encapsulated therapeutic agent - useful, e.g. for delivering antisense molecules or ribozymes or treating diseases associated with aberrant gene expression {\sf treating}
                                                                                                                                                                                                                                                      14-MAY-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This is the nucleotide sequence of the human antisense c-raf-1 oligodeoxyribonucleotide (ONYOLIGO), used in the method of the invention to directly target tumour tissue, and in cancer radiation therapy. The products can be used in a method of radiosensitising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New cationic liposome composition containing raf oligodeoxynucleotide - can be used to directly target tumour tissue and is useful in the radiation therapy of cancers
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intermediate mixture of lipid-encapsulated particles, and changing the pH of the mixture to neutralise at least some of the external surface charges on the particles. One lipid has a (de)protonatable group with Ka such that the lipid is charged at a first pH but neutral at a second pH (particularly near physiological pH) and the buffer maintains this lipid in the charged form (i.e. cationic when the therapeutic agent is anionic in the buffer, or vice versa). The second lipid prevents particle aggregation during formation of the lipid-therapeutic agent particles. The composition is used to introduce therapeutic agent particles in vivo or in vitro, particularly to treat or prevent diseases associated with aberrant gene expression in mammals, specifically tumours,
                                                                                                                                                                                                                                                                                                                                                                             The present sequence represents an antisense oligonucleotide directed against the human c-raf-1 protein kinase gene. The oligonucleotide can have either phosphorothicate or phosphodiester bonds. The oligonucleotide is lipid-encapsulated using the method of the invention. A composition comprising lipid-encapsulated particles of a therapeutic agent,
                                                                                                                                                                                                                                                                                                                                   e.g. antisense oligonucleotides, is prepared by mixing at least 2 liwith buffered aqueous solution of charged therapeutic agent to form
    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure;
                                                 inflammation or infection.
    15
BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Page
  2 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23;
  4 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98pp;
    4 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            English.
    5
T;
    0 other;
                                                                                                                                                                                                                                                                                                                                                            2 lipids
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Query Match
Best Local
                                                                                      Matches
AAZ98661;
               AAZ98661
                                                      15 GCATCAATGGAGCAC
                                                                                      Local Similarity
les 15; Conserv
                                                                      1 GCATCAATGGAGCAC
               standard;
                                                                                      Conservative
               DNA;
                                                                                           100.0%;
                                                      ب
                                                                      15
                15
                                                                                      0;
                                                                                             Score 15;
Pred. No.
                                                                                      Mismatches
                                                                                      0;
                                                                                      Indels
                                                                                      0;
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Length 15;

0

밁

QY

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Human c-raf-1
                                                   05-JUN-2000
                                                   (first entry)
PK therapeutic antisense oligonucleotide sequence ATG-AS
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Antisense oligonucleotide; phosphorothioate; infectious disease; :umour; gene therapy; aberrant protein kinase C alpha; c-raf-1 gene expression; inflammatory disease; treatment protein kinase;

SS

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RESULT 3
AAZ98661/c
ID AAZ986
XX AAZ986
XX AAT1se
AC AAZ986
XX AAT1se
KW Lumour
KW Infect
XX Homo s
FH Key
FT M1sc_f
FT Y
XX
PN CA2271
XX
XY
PN CA2271
XX
XX
AT1-MAY
XX
XX
AT1-MAY
AT
                                                                                                                                                                       (HARA/)
(HOPE/)
(ANSE/)
                                (CULL/)
(MOKW/)
(SCHE/)
(SEMP/)
                                                                                                                                                                                                                                                                                                                                                  14-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                  13-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-NOV-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CA2271582-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                           (KLIM/)
                                HARASYM T.
HOPE M J.
AUSELL S M.
CULLIS P R.
MOK W W K.
SCHERRER P.
SEMPLE S C.
                                                                                                                                                                                                                                                                              KLIMUK S
                                                                                                                                                                                                                                                                                                                                                  98US-0078955
                                                                                                                                                                                                                                                                                                                                                                                                                      99CA-2271582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
1..15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Optionally phosphorothicate internuclectide linkages"
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ARESULT 4
AAD22797/
ID AAD2
XX AAD2
AC AAD2
AC AAD2
XX Y
AC AAD2
XX Y
AC AAD2
XX Trea
CH Human
XX Trea
KW DSPC
T T modi
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                      Treatment; tumour; lipid-therapeutic agent particle; sphingomyelin distearoylphosphatidylcholine; palmitoyloleoyl phophatidylcholine; DSPC; POPC; 1,2-dioleoyl-sn-3-phosphoethanolamine; cholesterol; SM DOPE; inflammation; c-raf-1 protein kinase gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  therapeutic agents to mammalian cells. It is especially suitable for delivering nucleic acid molecules, and in particular antisense molecules which may be administered to down regulate the expression of aberrant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This sequence represents an antisense oligonucleotide sequence which has human c-raf-1 protein kinase as its target gene. The oligonucleotide is used in a method for delivering lipid encapsulated therapeutic agents (i.e antisense oligonucleotides) to mammals. The lipid capsule comprises steric barrier lipids that prevent particle aggregation during lipid nucleic acid formation. The method may be used for the delivery of therapeutic agents to mammalian cells. It is especially suitable for
 WPI; 2002-024658/03
                         Semple SC,
Scherrer P,
                                                                                             14-MAY-1997;
                                                                                                                        14-MAY-1998;
                                                                                                                                                 11-SEP-2001
                                                                                                                                                                          US6287591-B1
                                                                                                                                                                                                                                             modified_base
                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                            Human c-raf-1 protein kinase antisense oligonucleotide, ATG-AS
                                                                                                                                                                                                                                                                                                                                                                                                                         26-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAD22797;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAD22797 standard; DNA; 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             genes. The aberrant gene may be ICAM-1, c-myc, c-myb, ras, raf, erb-B-2, PKC-alpha, IGF-1R, EGFR, VEGF and/or VEG-R-1. The method may be used for the treatment of tumours, inflammatory diseases and/or infectious
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 5; Page 57; 99pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      capsules
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A method
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Klimuk SK,
                                                                   (INEX-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 GCATCAATGGAGCAC 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15; Conser
                                                                  INEX PHARM CORP
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Semple
                         Klimuk SK,
Debeyer D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
ilarity 100.0%;
Conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                             97US-0856374
                                                                                                                        98US-0078954
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A;
                                                                                                                                                                                                                                                          Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 C;
                            Ö
                                                                                                                                                                                                                   _base= OTHER
                                                                                                                                                                                                     "Optionally phosphorothicate backbone"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antisense oligonucleotides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hope
                                       Harasym
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      barrier
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T; 0 other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   lipids
                                       Hope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
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                                       Ansell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
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                                       , MS
                                                                                                                                                                                                                                                                                                                                                                 sphingomyelin,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cells using lipid
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                                       Cullis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                         MS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
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CC lipid component selected from lipids containing a protonatable or that the lipid is in charged form at a first pH and in neutral form at the second pH. The pks of lipid component is further selected such that the charged form at a first pH and in neutral form at CC a second pH. The pks of lipid component is from 4-11. The first lipid CC component is selected from lipids that the charged form is cationic CC when the therapeutic agent is anionic and vice versa; the second lipid CC component is selected from lipids that prevent particle agregation CC during lipid-therapeutic agent particles formation and which exchange CC out the lipid particle at a rate greater than PEG-CerC20; third lipid CC component is a neutral lipid selected from distearoylphosphatidylcholine (DSPC), palmitoyloleoyl phophatidylcholine (POPC), 1,2-dioleoyl-sn-3-CC phosphoethanolamine (DOPE) or SM (sphingomyelln) and a fourth lipid CC component which is cholesterol. Compositions of the invention are used CC for treatment or prevention of a disease caused by aberrant expression CC or gene preferably ICAM-1 (Intracellular adhesion molecule-1), C-myc, Cc-myb, ras, raf, erb-B-2, PKC-alpha (phosphokinase C-alpha), IGF-IR CC (insulin growth factor 1-receptor), bc1-2, EGFR (epidermal growth factor CC receptor), In a mammal or by inflammations such as tumour or an CC infectious disease. The present sequence is an antisense oligonucleotide CC crayeth (and contains a contains contains and contains conta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tumours. The composition comprises lipid-therapeutic agent particles comprising a lipid portion and a charged therapeutic agent which is encapsulated in the lipid portion. The lipid portion comprises a file
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Composition useful for treatment of e.g. tumors comprises comprising lipid portion and a charged therapeutic agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to a composition useful for treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        48pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                particles
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밁 Query Match Best Local Matches 15 GCATCAATGGAGCAC 1 1 GCATCAATGGAGCAC 15 Similarity Conservative 100.0%; 0; Score 15; Pred. No. Mismatches 0; Indels 0; Gaps 0;

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Sequence

15

BP; 2 A;

4 C;

4 G;

5 T;

0 other;

100

DB 24;

Length

AAT27527/c ID AAT27527 standard; RESULT 5 Mouse/rat 04-JUL-1996 AAT27527; Antisense; c-raf start translation region antisense oligunucleotide. anti-proliferative; tumour; (first entry) DNA; 20 ВP

psoriasis; restenosis; Ψ untranslated cancer; region;

Synthetic

WO9532987-A1

07-DEC-1995

31-MAY-1995; 95WO-US07111

31-MAY-1994; 94US-0250856

(ISIS-) ISIS PHARM INC

Boggs RT, Monia BP

WPI; 1996-030518/03

Oligo:nucleotide(s) targetted to nucleic acids encoding human raf

Ş В

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RESULT 6
AAZ11557/
ID AAZ1
XX AAZ1
XX AAZ1
XX AAZ1
XX MOUS
XX MOUS
XX MOUS
XX MOUS
XX US59
XX 
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31-MAY-1994;
31-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     expression. The oligonucleotides (ONs) are targeted to either coding region, start signal or 5′ or 3′ untranslated region (UTR) mRNA encoding mouse/rat c-raf. The ONs are phosphorothicate linked. The ON are used to inhibit expression of rat and mouse raf. The ONs can be used in partic. in conditions associated with hyperproliferation e.g.
                                                                         abnormal proliferative states and hyperproliferation (e.g. cancer, psoriasis, or blood vessel restenosis), and inhibiting raf express Sequences Z115511-564 represent antisense oligonucleotides for mou
                                                                                                                                                  The invention provides antisense oligonucleotides targeted to mRN encoding human raf and capable of inhibiting raf expression. The antisense oligonucleotides are useful for treating and diagnosing
                                                                                                                                                                                                                                                               Disclosure; Column 15;
                                                                                                                                                                                                                                                                                                                   expression
                                                                                                                                                                                                                                                                                                                                        Oligonucleotides targeted to human raf mRNA useful for treating diagnosing abnormal proliferative states and inhibiting raf
                                                                                                                                                                                                                                                                                                                                                                                                                       WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-SEP-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       capable of inhibiting raf exp
hyper:proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Boggs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (ISIS-) ISIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US5952229-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       diagnosis; abnormal proliferative state; hyperproliferation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Monia BP
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94US-0250856.
95WO-US07111.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 blood vessel restenosis; c-raf;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          specific antisense oligo ISIS # 10711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             raf expression,
                                                                                                                                                                                                                                                          29pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
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                                                                                                                                                                                                                                                            English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  in treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
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                                                                                               expression.
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Best Local S
Matches 15
                                                                                                                                                                                                                                                                                                                                               31-MAY-1994;
31-MAY-1995;
26-NOV-1996;
                       and raf-associated cell hyperproliferation conditions such as hyperplasias, pulmonary fibrosis, angiogenesis, psoriasis, atherosclerosis and smooth muscle cell proliferation in blood e.g. stenosis or restenosis following angioplasty. Also, the p sequence may be useful for treating inflammatory disorders sucgraft rejection, endotoxin shock and glomerular nephritis.
                                                                                                   control. The present sequence is an antisense oligonucleotide. This sequence is targeted to mouse and rat c-raf genes, resulting in c-raf expression inhibition. The present sequence may be useful for treating
                                                                                                                                        c-raf is a serine-threonine-specific protein kinase and is thought to play a fundamental role in signal transduction, and cell proliferation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            signal transduction; hyperplasia; pulmonary fibrosis; angiogenesis; psoriasis; atherosclerosis; smooth muscle cell proliferation; steno restenosis; inflammatory disorder; tissue graft rejection;
                                                                                                                                                                                                         proliferative conditions restenosis -
                                                                                                                                                                                                                    Antisense oligonucleotides targeted to nucleic acid molecule encoding human raf useful for diagnosis, treatment of raf-associated cell proliferative conditions such as cancer, psoriasis or blood vessel
                                                                                                                                                                                Disclosure;
                                                                                                                                                                                                                                                                                                                       (ISIS-) ISIS
                                                                                                                                                                                                                                                                                                                                                                                                28-AUG-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 endotoxin shock;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mouse and rat a-raf kinase antisense oligonucleotide #7 (Isis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAA73535;
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                                                                                                                                                                                                                                                                      2000-531424/48
                                                                                                                                                                                                                                                                                               RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                              Monia BP
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nilarity 100.0%;
Conservative 0
                                                                                                                                                                               Column 14; 31pp;
                                                                                                                                                                                                                                                                                                                       PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first
                                                                                                                                                                                                                                                                                                                                               94US-0250856.
95WO-US07111.
96US-0756806.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    kinase;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                glomerular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA;
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Pred.
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                                                                                                                                                                                                                  cancer, psoriasis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mouse; rat;
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                                                   Also, the present
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                                       such
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                                                                  vessels
                                                                                          cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          stenosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #10711).
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Query Match

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CC capable of modulating a process in a biological system. The method CC comprises: (a) introducing into the system a random library of nucleic acid cc comprises: (a) introducing into the system a random library of nucleic CC acid catalysts (NAC) having a substrate binding domain (SBD), comprising CC a random sequence, and a catalytic domain (CD); and (b) identifying NAC CC in systems where modulation has occurred and/or determining the sequence CC of at least part of the SBDs in such systems. Nucleic acid molecules CC with endonuclease activity and catalytic activity, from the present CC invention, are used to modulate gene expression in plant and mammalian CC cells and to cleave target nucleic acid, particularly for treating CC systemic diseases caused by specific RNA, e.g. cancer, inflammation, CC genetic diseases caused by specific RNA, e.g. cancer, inflammation, CC craft RNA, Specifically NACs with RNA-cleaving activity that modulate CC expression of the Raf gene, are used to treat cancer, restenosis, CC psoriasis or rheumatoid arthritis, or generally any condition associated CC with the level of c-raf. Introduction of sugar/phosphate modifications in creases stability against nuclease and activity. Aavy9922 to AAvy93877 crepresent NACs that can be used in the method, specifically for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19-DEC-1997;
09-MAY-1997;
09-JUN-1997;
03-JUL-1997;
03-JUL-1997;
22-AUG-1997;
02-OCT-1997;
02-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Karpeisky
Parry T,
                                                                                                                                                                                                                                                                                                                                                                                      Claim 177; Page 146; 259pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                  Identifying new catalytic nucleic acid that modulates selected processes - especially ribozymes that cleave Raf RNA for treating cancer, restenosis, and also new ribozymes and modified nucleoside triphosphates used as antiviral agents and synthons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1999-009494/01.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Beaudry
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  delivery; screening; identification; synthesis; deprotection; purification; cancer; inflammation; psoriasis; non-hepatic ascites; infection; genetic drift; restenosis; rheumatoid arthritis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; c-raf; A-raf; B-raf; hammerhead ribozyme;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (RIBO-)
                                 modulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     target; substrate; catalyst;
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, Kisich K,
Reynolds M, Sw
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97US-0061321.
97US-0061324.
97US-0064866.
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97US-0049002.
97US-0051718.
                                 expression of a Raf
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      , Bellon L, Burgin A, matulic-Adamic J, Mc Sweedler D, Thompson J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nammerhead ribozyme; hairpin ribozyme; modulation; expression; Raf gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      position
                                   gene.
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1 J, Workman
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                                                                                                                                      AAT27481-T27507 are human c-raf kinase antisense oligonucleotides use for the inhibition of raf expression. The oligonucleotides (ONs) are targeted to either coding region, start or stop signal or 5' or 3' untranslated region (UTR) mRNA encoding human c-raf. The ONs may be phosphorothioate linked and may contain modifications at the 2' position of the sugar molety. ONs are pref. complementary to either 3' or 5' UTRS, phosphorothioate linked and contain 2'-O-aikyl sugar modifications. The ONs are used to inhibit expression of human raf in partic. in conditions associated with hyperproliferation e.g.
                                                                                                                                                                                                                                                                                                             Oligo:nucleotide(s) targetted to nucleic acids encoding capable of inhibiting raf expression, used in treatment
                                                                                                     Sequence
                                                                                                                                                                                                                                                                       Claim 10;
                                                                                                                                                                                                                                                                                                                                                  WPI; 1996-030518/03
                                                                                                                                                                                                                                                                                                                                                                                                                               31-MAY-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAT27482 standard;
                                                                                                                                                                                                                                                                                                hyper:proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                      (ISIS-) ISIS PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           W09532987-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    c-raf kinase translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11;
                                                 l Similarity
13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                             restenosis,
                                                                                                     20
                                                                                                                                                                                                                                                                     Page 15; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                                            Monia BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              anti-proliferative;
hioate; 2' sugar modi
                                                                                                     BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                               94US-0250856
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د
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1..20
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1..20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag=
                                                                                                     Α;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17
                                                                                                                             and psoriasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86.7%;
84.6%;
                                                                                                     5 C; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sugar modification;
                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "all bases opt. contain 2'-0-methyl
or 2'-0-propyl sugar modifications"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "opt.
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                                                 0;
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Pred. No.
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                                                              Score 13;
Pred. No.
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                                                                                                     6 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tumour; cancer; raf;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    start site antisense oligonucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                    Mismatches
                                                                                                     0
                                                                                                     other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 20;
4.2e+02;
                                                                           DB
                                                               4.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               psoriasis;
                                                                            17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linked
                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               restenosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             oncogene
                                                                                                                                                                                                                                                                                                              human
of
                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                         raf
                                                 Gaps
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RESULT 11
AAT59716/c
ID AAT597
XX
AC AAT597
XX
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AAT62145/c
ID AAT62145 standard; DNA;
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                                                                                                                                                                             Matches
                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                     A pharmaceutical composition has been developed comprising an oligonuclectide, targeted to human raf encoding mRNA, and an anionic polysaccharide. The present sequence represents a specifically claimed oligonucleotide for use in the composition. The composition can be used to treat mammalian cancer, especially human lung, stomach, renal, breast, laryngeal, pancreatic or colorectal cancer, or malignant melanoma. The anionic polysaccharide increases tumour uptake of the
            AAT59716;
                                  AAT59716 standard;
                                                                                                                                                                                                                                                                                                             Claim 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cancer; anionic polysaccharide; human; renal cancer; breast cancer; laryngeal colorectal cancer; malignant melanoma;
                                                                                                                                                                                                            oligonucleotide,
                                                                                                                                                                                                                                                                                                                                                      Composition for cancer treatment
                                                                                                                                                                                                                                                                                                                                                                            WPI; 1997-202610/18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human c-raf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAT62145;
                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                              polysaccharide,
                                                                                                                                                                                                                                                                                                                                                                                                                      (NOVS ) NOVARTIS AG. (CIBA ) CIBA GEIGY AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       19-SEP-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-SEP-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9710829-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic
                                                                                        13
                                                                                                           1 GCATCAATGGAGC 13
                                                                                       GCATCAATGGAGC
                                                                                                                                                                                                                                                                                                                                  c-raf
                                                                                                                                                                                                                                                                                                                                                                                                 PL,
                                                                                                                                             Similarity
                                                                                                                                                                                                   mRNA.
                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                           Page 14; 21pp; English
                                                                                                                                                                             B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and dextran sulphate mRNA targetting oligonucleotide ON1
                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                 Steward A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first
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1.20
/*tag= a
                                                                                                                                                                                                                                                                                                                                  dextran sulphate
                                                                                                                                                                                                                                                                                                                                           cancer treatment - comprising anionic
and oligo:nucleotide targeted to mRNA encoding
                                                                                                                                                                                                            particularly an oligonucleotide targeted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note=
                                                                                                                                                                             A;
                                  DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entry)
                                                                                                                                             86.7%;
                                                                                                                                                                             S
                                                                                                                                                                            C; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Phosphorothicate backbone; optionally being uniformly substituted at the 2'-position of sugar moiety by a methoxy group"
                                  20
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                                  ВP
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                                                                                                                                                                            G;
                                                                                                                                  0;
                                                                                                                                             Score 13;
Pred. No.
                                                                                                                                                                            6 T;
                                                                                                                                   Mismatches
                                                                                                                                                                            0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          lung cancer; stomach cancer;
cancer; pancreatic cancer;
tumour; ss.
                                                                                                                                                       DB 18;
                                                                                                                                             4.3e+02;
                                                                                                                                                      Length
                                                                                                                                  Indels
                                                                                                                                                       20;
                                                                                                                                                                                                             to human raf
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                                                                                                                                  Gaps
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RESULT 12
AAZ11512/c
KK XE XEX AX I
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Matches
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                                                                                                                                                                                                                                                                                                     mammalian cancer, partic. human cancer e.g. lung, stomach, renal, breas laryngeal, pancreatic, colorectal cancer and malignant melanoma. In particular the compsns. can inhibit abnormal raf expression and retain anti-hyperproliferative activity after prolonged circulation in the bloodstream. They facilitate the reduction of accumulation of ONs in non-target organs and a reduction of acute and chronic side effects during prolonged treatment. ONI-10 are oligodeoxynucleotides with phosphorothioate backbones designed using the Genbank c-raf sequence HUMRAFR. ONI is targeted to the translation initiation site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Inhibiting human raf expression, partic. for treating causing an oligonucleotide targeted to mRNA encoding human entrapped in sterically stabilised liposome(s)
                                                                                                                                                                                                                                                                                                                                                                                                             stabilised liposomes are claimed. The compsns. can be used for inhibiting the expression of human raf. They can be used for the treatment of mammalian cancer, partic. human cancer e.g. lung, stomach, renal, breast,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 T59716-28 are preferred oligonucleotides which are targeted to mRNA encoding human raf and are capable of inhibiting raf expression. Compositions containing the oligonucleotides entrapped in sterically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Key
modified_base
                                    Human c-raf kinase antisense oligo ISIS # 5074.
                                                                                                                AAZ11512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 16; Page 18; 27pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-SEP-1995;
01-AUG-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-FEB-1997
                                                              05-NOV-1999
                                                                                      AAZ11512;
                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1997-145363/13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hamilton
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               anti-hyperproliferative;
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                                                                                                                                                                                                                                          Local
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                                                                                                                                                                             GCATCAATGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           inhibitor; antisense; liposome;
                                                                                                                                                                                                                                l Similarity
13; Conserv
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                                                                                                                standard; DNA;
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                                                                                                                                                                                                                                                                                 BP; 5
                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GEIGY AG
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                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Love WG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95GB-0019130.
95GB-0015743.
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                                                                                                                                                                                                                                          86.7%;
                                                                                                                                                                                                                                                                                 5 C; 4 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "phosphorothioate backbone linkages"
                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nicklin PL,
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                                                                                                                 ВP
                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                            Score 13;
Pred. No.
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                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                  Τ;
                                                                                                                                                                                                                                            No.
                                                                                                                                                                                                                                                                                  0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cancer; abnormal expression;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Phillips
                                                                                                                                                                                                                                4.3e+02;
hes 0;
                                                                                                                                                                                                                                                          DB 18;
                                                                                                                                                                                                                                                        Length 20
                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cancer
man raf
                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                 Gaps
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cancer; psoriasis; blood

Human; raf;

diagnosis;

abnormal od vessel

proliferative state; hyperproliferation; restenosis; c-raf kinase; antisense; ss.

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RESULT 13
AAA73490/c
dd
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Best Local S
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31-MAY-1994;
31-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention provides antisense oligonucleotides targeted to mRNA encoding human raf and capable of inhibiting raf expression. The antisense oligonucleotides are useful for treating and diagnosing abnormal proliferative states and hyperproliferation (e.g. cancer, psoriasis, or blood vessel restenosis), and inhibiting raf expression. Sequences AAZII511-53 and AAZII555-573 represent antisense
                                                                                                                                                  Human; c-raf; protein kinase; antisense oligonucleotide; cancer; signal transduction; hyperplasia; pulmonary fibrosis; angiogenes psoriasis; atherosclerosis; smooth muscle cell proliferation; st restenosis; inflammatory disorder; tissue graft rejection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI;
          US6090626-A.
                                                                                     modified_base
                                                                                                                      Homo
                                                                                                                                           endotoxin shock;
                                                                                                                                                                                                            Human
                                                                                                                                                                                                                                  28-NOV-2000
                                                                                                                                                                                                                                                                           AAA73490 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                              oligonucleotides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oligonucleotides targeted to human diagnosing abnormal proliferative s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Boggs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ISIS-) ISIS
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                                                                                                                                                                                                                                                                                                                                                       GCATCAATGGAGC 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1999-527018/44.
                                                                                                                     sapiens
                                                                                                                                                                                                                                                                                                                                  GCATCAATGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sapiens
                                                                                                                                                                                                            c-raf kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RT,
                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                        20
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                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                        BP; 5 A; 5 C; 4 G; 6 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PHARM INC
                                                                                                                                                                                                                               (first entry)
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94US-0250856.
95WO-US07111.
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                            /note= "All or some nucleotides are optionally with 2'-methoxyethoxy, or 2'-0-propyl modification. Also, optionally phosphodiester or phosphothioate backbone
                                                                                             Location/Qualifiers
                                                                       /*tag=
                                                                                                                                        glomerular nephritis;
                                                               /mod_base= OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                              for human
                                                                                                                                                                                                          antisense oligonucleotide #2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29pp; English.
                                                                                                                                                                                                                                                                                                                                                                                       86.7%;
100.0%;
                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                           ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                            c-raf kinase.
                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                       Score 13;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    n raf mRNA useful for t
states and inhibiting
                                                                                                                                           SS
                                                                                                                                                                                                                                                                                                                                                                                                  DB 20;
                                                                                                                                                                                                                                                                                                                                                                                        4.3e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                  Length 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for treating
                                                                                                                                                                                                         #5074, #7835, #7843).
                                                                                                                                                                          angiogenesis;
                              backbone
                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                               stenosis;
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hyperplasias, pulmonary fibrosis, angiogenesis, psoriasis, atherosclerosis and smooth muscle cell proliferation in blood vessels e.g. stenosis or restenosis following angioplasty. Also, the present sequence may be useful for treating inflammatory disorders such as tissue graft rejection, endotoxin shock and glomerular nephritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           c-raf is a serine-threonine-specific protein kinase and is thought to play a fundamental role in signal transduction, and cell proliferation control. The present sequence is an antisense oligonuclectide. This sequence is targeted to human c-raf gene, resulting in c-raf expression inhibition. The present sequence may be useful for treating and raf-associated cell hyperproliferation conditions such as cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Boggs
                                                                                                                                                                              07-OCT-1996;
                                                                                                                                                                                                                                                                                WO9714811-A1
                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                          ovary; bladder; head; neck; colon; comparative genome hybridisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Human chromosome 20; position FLpter 0.825; PCR primer; probe; hybridisation; detection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Position FLpter 0.825 chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAX16583;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAX16583 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 31; Column 9; 31pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Antisense oligonucleotides targeted to nucleic acid molecule encoding human raf useful for diagnosis, treatment of raf-associated cell proliferative conditions such as cancer, psoriasis or blood vessel
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31-MAY-1995;
                                                                       (REGC ) UNIV CALIFORNIA.
                                                                                                                               20-0CT-1995;
                                                                                                                                                                                                                                 24-APR-1997
                                                                                                                                                                                                                                                                                                                                Homo sapiens
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                          Gray JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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95WO-US07111.
96US-0756806.
                                                                                                                            95US-0546130
                                                                                                                                                                              96WO-US16085
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Pred. No.
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4.3e+02;
hes 0;
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WPI; 1997-245126/22

Detection of abnormalities on human chromosome 20 at position 20q13 - is useful as indicator of presence of, e.g. primary breast tumours

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AAX16555
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Best Local :
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                              Detection of abnormalities on human chromosome 20 at position 20q13
                                                                                                    Collins C,
                                                                                                                                                                                                                                              24-APR-1997.
                                                                                                                                                                                                                                                                                 WO9714811-A1
                                                                                                                                                                                                                                                                                                                                                                 Human chromosome 20; position FLpter 0.825; chromosome abnormality; PCR primer; probe; hybridisation; detection; breast cancer; tumour; ovary; bladder; head; neck; colon; comparative genome hybridisation;
                                                                                                                                                                                                                                                                                                                                                                   PCR primer; probe; ovary; bladder; he
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAX16555 standard; DNA; 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          about position FLpter 0.825 on the human chromosome 20. The method comprises: (i) contacting a chromosomal sample from a patient with at least 1 labelled probe, which binds to a target sequence at about
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
                                                                                                                                      (REGC ) UNIV CALIFORNIA.
                                                                                                                                                                         20-OCT-1995;
                                                                                                                                                                                                           07-OCT-1996;
                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Position FLpter 0.825 chromosome abnormality PCR forward primer #4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 GAATCAATGGAGCA 17
                  is
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            useful as indicator of presence of, e.g. primary breast tumours
                                                                     1997-245126/22
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92.9%;
                                                                                                    Kallioniemi O,
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CC about position FLpter 0.825 on the human chromosomal abnormalities at CC comprises: (1) contacting a chromosomal sample from a patient with at CC least 1 labelled probe, which binds to a target sequence at about position FLpter 0.825 on the human chromosome 20; and (ii) detecting the cC binding of the probes to the target sequence. AAX16549 to AAX16586 CC represent nucleic acid sequences to which the probes can hybridise. These CC nucleic acid sequences to which the probes can hybridise. These CC can be used to detect genomic amplifications in the 20q13 (especially CC the 20q13.2) amplicon, which is associated and indicative of the presence CC of a large number of cancers, e.g. primary tumours of breast, ovary, CC bladder, head and neck and colon cancers. The method uses the technique CC comparative genome hybridisation (CGH) which is able to reveal CC amplifications and deletions in genomic chromosomes irrespective of genome rearrangements. However CGH also provides a more quantitative cestimate of copy number than, e.g. Southern hybridisation, and also CC provides the localisation of the amplified or deleted region in a normal CC using locus specific probes to confirm the CGH data and to precisely compared the process of the process to confirm the CGH has an of the process of the process to confirm the CGH data and to precisely compared the process of the process to confirm the CGH data and to precisely compared the process to confirm the CGH data and to precisely compared the process to confirm the CGH data and to precisely compared the process to confirm the CGH data and to precisely considered the process to confirm the CGH data and the precisely considered the process to confirm the CGH data and to precisely considered the process to confirm the CGH data and the precisely considered confirm the CGH data and the precisely considered consider
                                                                                 using locus specific probes to confi
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Search completed: October 24, Job time: 56.7273 secs 2002, 04:06:06 В Ş

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Matches Query Match Best Local (

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/cgn2_6/ptodata/2/ina/5B_COMB.seq:*
/cgn2_6/ptodata/2/ina/6A_COMB.seq:*
/cgn2_6/ptodata/2/ina/6B_COMB.seq:*
/cgn2_6/ptodata/2/ina/Backfiles1.seq:*
/cgn2_6/ptodata/2/ina/backfiles1.seq:*
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US-09-957-327-3
US-09-958-954-15
US-09-482-084-1
US-09-482-084-1
US-09-482-084-3
US-09-143-214-47
PCT-US95-07111A-47
US-08-957-327-2
US-08-957-327-2
US-09-143-214-2
US-09-143-214-2
US-09-143-214-2
US-09-143-214-2
US-09-143-214-2
US-09-066-641-1
PCT-US95-07111A-2
US-09-066-641-1
US-09-066-641-3
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US-08-870-608-6
US-08-870-608-6
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15, Appl
4, Appli
18, Appli
172, App
172, App
3, Appli
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15, Appli
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US-08-957-327-1/c
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   1 GCATCAATGGAGCAC
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73.3 73.3	73.3	73.3	76.0	76.0	76.0	76.0	76.0	76.0	78.7	78.7	78.7	78.7	78.7	78.7	78.7
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US-08-485-602-4 US-08-485-602-80	PCT-US95-07111A-48	US-08-756-806A-48 US-09-143-214-48	US-09-254-733-48	US-08-104-073-14	US-08-435-350-83	US-08-758-306-1140	US-08-790-659-5	US-08-790-659-4	US-08-673-312-8	US-08-001-554A-12	US-08-467-961A-12	US-08-467-969A-12	US-08-344-639E-12	US-08-852-344D-12	US-08-838-189D-12
Sequence 4, Appl Sequence 80, App		Sequence 48, App	Sequence 48, Ap		Sequence 83, Appl	Sequence 1140,	Sequence 5, Appl	Sequence 4, Appl	Sequence 8, Appl	•	`	•	Sequence 12, App	•	Sequence 12, App

ALIGNMENTS

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GENERAL INFORMATION:
APPLICANT: Kasid, Usha
APPLICANT: Gokhale, Prafulla
APPLICANT: Dritschilo, Anatoly
APPLICANT: Rahman, Aqulur
TITLE OF INVENTION: Liposomes
NUMBER OF SEQUENCES: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1, Application US/08957327 Patent No. 6126965
                                                                                                                                                                                                                                                         ATTOKNOL.

NAME: Hendricks, ... 32,533
REGISTRATION NUMBER: 32,533
REFERENCE/DOCKET NUMBER: kasid
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 591-4470
TELEPHONE: (703) 591-4428
TO TO NO: 1:
                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION.

APPLICATION NUMBER: US/08/95/75

FILING DATE: 24-OCT-1997

CLASSIFICATION: 514

ATTORNEY/AGENT INFORMATION:

NAME: Hendricks, Glenna
NAME: Hendricks, Glenna

1. TON NUMBER: 32,535
                                                                                                                                                                                                                                        TELEFAX: (703) 591-442
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: LEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                      TOPOLOGY: unknown MOLECULE TYPE: DNA HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                               LENGTH: 15 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
ch 100.0%; l Similarity 100.0%; 15; Conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: Hendricks and Assoc.
P.O. Box 2509
                                                                                                       YES
                                                                                                                                         DNA (genomic)
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Score 15; DB 3; Length 15; Pred. No. 4.3; Indels
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US-09-078-954-15/c

: Sequence 15, Application US/09078954

: Patent No. 6287591
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US-08-957-327-3
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US-08-957-327-3
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Best Local Similarity
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                                                                                                                                        GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 591-4470
TELEFAX: (703) 591-4428
INFORMATION FOR SEQ ID NO: 3:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 15 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Hendricks, Glenna
REGISTRATION NUMBER: 32,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Dritschilo, Anatoly
APPLICANT: Rahman, Agulur
TITLE OF INVENTION: Liposomes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                 APPLICANT:
                                                                                                                              APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
               APPLICANT:
                            APPLICANT:
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                                                         PPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/957,327 FILING DATE: 24-OCT-1997 CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: kasid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Fairfax
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
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5. 6126965
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                                                      Ansell, Steven M.
Cullis, Pieter
                         Scherrer, Peter
Geiser, Timothy
                                                                                     Hope, Michael J.
                                                                                               SEMPLE, Sean C.
Klimuk, Sandra K.
Harasym, Troy
                                                                                                                                                                                                                                                                                                        Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                       single
            Gerald
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RESULT 4
US-09-482-084-1/c
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                                                                                                                                                                                                                                                                            Sequence 1, Application US/09482084
Patent No. 6333314
GENERAL INFORMATION:
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 08/856,37
FILING DATE: 14-MAY-1997
ATTORNEY/AGENT INFORMATION:
NAME: MARINA T. Larson
REGISTRATION NUMBER: 32,038
REFERENCE/DOCKET NUMBER: INEX
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Word Perfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Oppedahl & Larson
STREET: PO Box 5270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: HYPOTHETICAL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: ...
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: single
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Hendricks and Assoc
                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                      TITLE OF INVENTION: Liposomes containg Oligonucelotides
                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              80443-5270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nucleic acid
                                                                                                         CITY: Fairfax
STATE: VA
                                                                            ZIP: 22031
                                                                                           COUNTRY:
                                                                                                                                        STREET: P.O. Box 2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G
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(970) 668-2082
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            yes
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                   : Kasid, Usha
Gokhale, Prafulla
Dritschilo, Anatoly
Rahman, Aqulur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           other nucleic acid
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 Version #1.25
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CURRENT APPLICATION DATA:

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 08/957,327
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Hendricks, Glenna
REGISTRATION NUMBER: 32,535
REFERENCE/DOCKET NUMBER: kasid
TELECOMMUNICATION INFORMATION:
TELEFAX: (703) 591-4470
TELEFAX: (703) 591-4428
INFORMATION: FOR SEO ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3, Application US/09482084 Patent No. 6333314 GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 3:
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                                                                                                                       APPLICATION NUMBER: 08/957,327
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
                 TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 591-4470
TELEFAX: (703) 591-4428
                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: unknown MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO ANTI-SENSE: YES
                                                                                                                                                                                    PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Liposomes containng Oligonucelotides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Kasid, Usha
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STREET: P.O. Box 2509
CITY: Fairfax
STARE. ----
                                                                                                                                                                                                   APPLICATION NUMBER: US/09/482,084 FILING DATE: 13-Jan-2000 CLASSIFICATION: <Unknown>
                                                                                    NAME: Hendricks, Glenna
REGISTRATION NUMBER: 32,535
                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: VA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/09/482,084 FILING DATE: 13-Jan-2000
                                                                      REFERENCE/DOCKET NUMBER: kasid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                             22031
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Dritschilo, Anatoly
Rahman, Aqulur
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Pred. No.
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RESULT 6
US-08-756-806A-47/c
; Sequence 47, Application US/08756806A
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 Matches
                             Query Match
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                                                                                                                                                                                                                 APPLICATION NUMBER: 08/250,85
FILING DATE: May 31, 1994
ATTORNEY_AGENT INFORMATION:
NAME: Jane Massey Licata
REGISTRATION NUMBER: 3257
REFERENCE/DOCKET NUMBER: 159H
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                          INFORMATION FOR SEQ ID NO:
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TITLE OF INVENTION: Antisense Oligonucleotide Modulation
TITLE OF INVENTION: of raf Gene Expression
                                                                            TOPOLOGY:
ANTI-SENSE:
                                                                                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: PCT/U: FILING DATE: May 31, 1995 PRIOR APPLICATION DATA:
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OPERATING SYSTEM: PC-DUS
OPERATING SYSTEM: WORDPERFECT 5.1
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nes 15; Conservat
 Local Similarity les 15; Conserv
                                                                                                            STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 15 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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                                                                                                                         Nucleic Acid
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Score 15; DB 2
Pred. No. 4.5;
0; Mismatches
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Pred. No.
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                             DB 2; Length 20;
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RESULT 8
PCT-US95-07111A-47/c
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                                                                                                                             Sequence 47, Application PC/TUS9507111A
GENERAL INFORMATION:
APPLICANT: Monia, Brett P. and Boggs, Russell T.
                                                                                                                                                                                                                                                                                                                                                                      Query Match
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APPLICANT: Monia, Brett P. and Boyys, National TITLE OF INVENTION: Antisense Oligonucleotide Modulation TITLE OF INVENTION: of raf Gene Expression NUMBER OF SEQUENCES: 54
CORRESPONDENCE ADDRESS:
ADDRESSE: Law Offices of Jane Massey Licata STREET: 210 Lake Drive East, Suite 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: May 31, 1995
PRIOR APPLICATION DATA:
APPLICATION UMBER: 08/250,856
FILING DATE: May 31, 1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: IS TELECOMMUNICATION INFORMATION:
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PRIOR APPLICATION NUMBER: 08/756,806
APPLICATION NO. 6090626ember 26, 1996
FILING DATE: NO. 6090626ember 26, 1996
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SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
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MEDIUM TYPE: DISKETT
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TITLE OF INVENTION: Antisense Oligonucleotide Modulation
TITLE OF INVENTION: of raf Gene Expression
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CORRESPONDENCE ADDRESS:
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1 Similarity 100.0%;
15; Conservative 0;
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EDNESS: Single
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Pred. No.
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Sequence 2, Application
patent No. 6126965
GENERAL INFORMATION:
APPLICANT: Kasid, U
APPLICANT: Gokhale,
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TELEFAX: (609) 779-8488
INFORMATION FOR SEQ ID NO:
                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                            COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
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APPLICATION NUMBER: 08/2
FILING DATE: May 31, 199
ATTORNEY/AGENT INFORMATION:
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OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDDERFECT 5.1
CURRENT APPLICATION DATA:
REFERENCE/DOCKET NUMBER: ka
                                                               CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Dritschilo, Anatoly APPLICANT: Rahman, Agulur TITLE OF INVENTION: Liposomes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: IS TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                            STREET: F. STREET:
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                                                                                 APPLICATION NUMBER: US/08/957,327 FILING DATE: 24-OCT-1997 CLASSIFICATION: 514
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STRANDEDNESS: Sing
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REGISTRATION NUMBER: 32,
                               NAME: Hendricks, Glenna REGISTRATION NUMBER: 32
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19 GCATCAATGGAGCAC 5
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FILING DATE: May 31, 1995
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                                                                                                                                                                                                                                                                                                         Hendricks and Assoc
                                                                                                                                                                                              Floppy disk
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                                                                                                                                                                                                                                                                                                                                                        Liposomes containg Oligonucelotides
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Pred. No.
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US-08-957-327-2
                                                               US-09-482-084-2
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Best Local Similarity
Best Local Similarity 100. Matches 15; Conservative
                               Query Match
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                                                                                                                                                                                                                     TELECOMUNICATION INFORMATION:
TELEPHONE: (703) 591-4470
TELEFAX: (703) 591-4428
INFORMATION FOR SEQ ID NO: 2:
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STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/482,084
FILING DATE: 13-Jan-2000
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/957,327
FILING DATE: <Unknown>
                                                                                               HYPOTHETICAL: NO ANTI-SENSE: YES
                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 25 base pairs
TYPE: nucleic acid
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ADDRESSEE: Hendricks and Assoc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Liposomes containing Oligonucelotides NUMBER OF SEQUENCES: 3
                                                                                                                       TOPOLOGY: unknown MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Kasid, Usha
                                                                             SEQUENCE DESCRIPTION: SEQ ID NO:
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                                                                                                                                                                                                                                                                                NAME: Hendricks, Glenna
REGISTRATION NUMBER: 32,535
REFERENCE/DOCKET NUMBER: kasid
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
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                                                                                                                                                      STRANDEDNESS: single
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Score 15; DB 4; Pred. No. 4.7; Mismatches (
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Pred. No.
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US-08-756-806A-2/c
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US-08-250-856A-2/c
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Patent No. 5952229
GENERAL INFORMATION:
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Jane Massey Licata
REGISTRATION NUMBER: 32,257
REFERENCE/DOCKET NUMBER: IS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (609) 779-2400
                                            APPLICANT: Monia, Brett P. and Boggs, Russell T.
TITLE OF INVENTION: Antisense Oligonucleotide Modulation
TITLE OF INVENTION: of raf Gene Expression
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: Law Offices of Jane Massey Licata
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PRIOR APPLICATION DATA: APPLICATION NUMBER:
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/250,856A
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ADDRESSEE: Law Offices of Jane Massey Licata
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TITLE OF INVERVION: Antisense Oligonucleotide Modulation
TITLE OF INVERVION: of raf Gene Expression
NUMBER OF SEQUENCES: 39
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OPERATING SYSTEM:
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e: 66 East Main Street
Marlton
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N: 435
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Pred. No.
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63;
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US-09-143-214-2/c
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APPLICANT: Monia, Brett P. and Boggs, Russell T.
TITLE OF INVENTION: Antisense Oligonucleotide Modulation
TITLE OF INVENTION: of raf Gene Expression
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                             PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/756,806
FILING DATE: NO. 609626ember 26,
APPLICATION NUMBER: PCT/US95/07111
                                                                                                                                              COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
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FILING DATE: May 31, 1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/250,856
FILING DATE: May 31, 1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
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ANTI-SENSE:
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                                                                                                 APPLICATION NUMBER: US/09/143,214 FILING DATE: CLASSIFICATION:
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May 31, 1995
ON DATA:
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5952229ember 26, 1996
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100.0%;
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PCT-US95-07111A-2/c
PCT-US95-07111A-2/c
; Sequence 2, Application PC/TUS9507111A
; GENERAL INFORMATION:
; APPLICANT: Monia, Brett P. and Boggs, Russell T.
; APPLICANT: Monia, Brett P. and Boggs, Russell T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Love, William G
APPLICANT: Sharman, Thomas
APPLICANT: Sharman, Thomas
APPLICANT: Nicklin, Faul L
APPLICANT: Nicklin, Paul L
APPLICANT: Hamilton, Karen O
TITLE OF INVENTION: Liposomal Oligonucleotide Compositions
FILE REFERENCE: 4-20536/A/MA 2112
CURRENT APPLICATION NUMBER: US/09/000,136
CURRENT FILING DATE: 1998-04-23
EARLIER APPLICATION UNMBER: GB 9515743.4
EARLIER FILING DATE: 1995-08-01
NUMBER OF SEQ ID NOS: 25
COUNTRESS DATE: 1995-08-01
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US-09-143-214-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Ver. SEQ ID NO 1
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Best Local
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                                                                                                                                                                                                                                             Best Local Similarity
Matches 13; Conserv
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INFORMATION FOR
                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: alternative oligonucleotide prepared with methoxy OTHER INFORMATION: group substituting 2' sugar moiety
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: phosphorothicate backbones
                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
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REFERENCE/DOCKET NUMBER: ISPH-0200
TELECOMMUNICATION INFORMATION:
TELEPHONE: (609) 779-2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 08/25
FILING DATE: May 31, 1994
ATTORNEY/AGENT INFORMATION:
NAME: Jane Massey Ligata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
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OR SEQ ID NO: 2:
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Pred. No.
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63;
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NUMBER OF INVENTION: Of raf Gene Expression

NUMBERS OF ENCHANDERSS:

ADDRESSES: LAW Offices of Jane Massey Licata

STREET: 210 Lake Drive East, Suite 201

CITY: Cherry Hill

COMPUTER REDABLE FORM:

MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE

COMPUTER REDABLE FORM:

MEDIUM TYPE: DISKETTE, 5.5 INCH, 1.44 Mb STORAGE

COMPUTER REDABLE FORM:

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MEDIUM TYPE: DISKETTE, 5.5 INCH, 1.44 Mb STORAGE

COMPUTER REDABLE FORM:

MEDIUM TYPE: DISKETTE, 5.5 INCH, 1.44 Mb STORAGE

COMPUTER STORMER: 08,720

COMPUTER STORMER: POLOS

COMPUTER STORMER: 08,720

COMPUTER STORMER: 08,725

COMPUTER STORMER: 08,725

COMPUTER STORMER: 08,725

COMPUTER STORMER: 08,725

COMPUTER: MAD STORMER: 08,725

COMPUTER: WASHER: 08,725

COMPUTER: UNABER: PCD/SS5/

COMPUTER: WASHER: 08,725

COMPUTER: WASHER: 08,
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